

CALIFORNIA  
ENERGY  
COMMISSION

# CALIFORNIA ENERGY DEMAND 2003-2013 FORECAST

Prepared in Support of the Electricity and  
Natural Gas Report under the Integrated  
Energy Policy Report Proceeding  
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# CALIFORNIA ENERGY COMMISSION

Lynn Marshall  
Tom Gorin  
*Principal Authors*

Andrea Gough  
Glen Sharp  
Nahid Movassagh  
Mohsen Abrishami  
Shu-Yi Liao  
Mitch Tian  
Adrienne Kandel  
Newton Wai  
Kate Sullivan  
Peter Puglia  
*Staff Contributors*

Al Alvarado  
*Electricity & Natural Gas Report*  
*Project Manager*

William Schooling  
*Manager*  
Demand Analysis Office

Valerie Hall  
*Chief Deputy Director*  
Energy Efficiency  
and Demand Analysis Division

Bob Therkelsen  
*Acting Executive Director*

## Introduction

This California Energy Commission staff draft report presents forecasts of electricity consumption, peak electricity demand, and natural gas demand for the State of California and for each utility planning area within the state. This is one of a number of draft reports that Energy Commission staff are preparing, under the direction of the Ad Hoc Integrated Energy Policy Report Committee, to support the development of the *2003 Integrated Energy Policy Report*. (IEPR).

The final forecasts of electricity consumption, peak electricity demand, and natural gas demand will serve as the baseline for analysis in the IEPR. They will also be made available to utilities, other State agencies, the California Independent System Operator (CAISO), and other interested parties for their use in analyzing demand trends in California. To support risk assessment in the IEPR, staff will also develop a limited number of demand scenarios encompassing variation in economic conditions, energy efficiency, distributed generation, and natural gas prices. After discussing the draft baseline forecast, this report discusses the proposed scenarios.

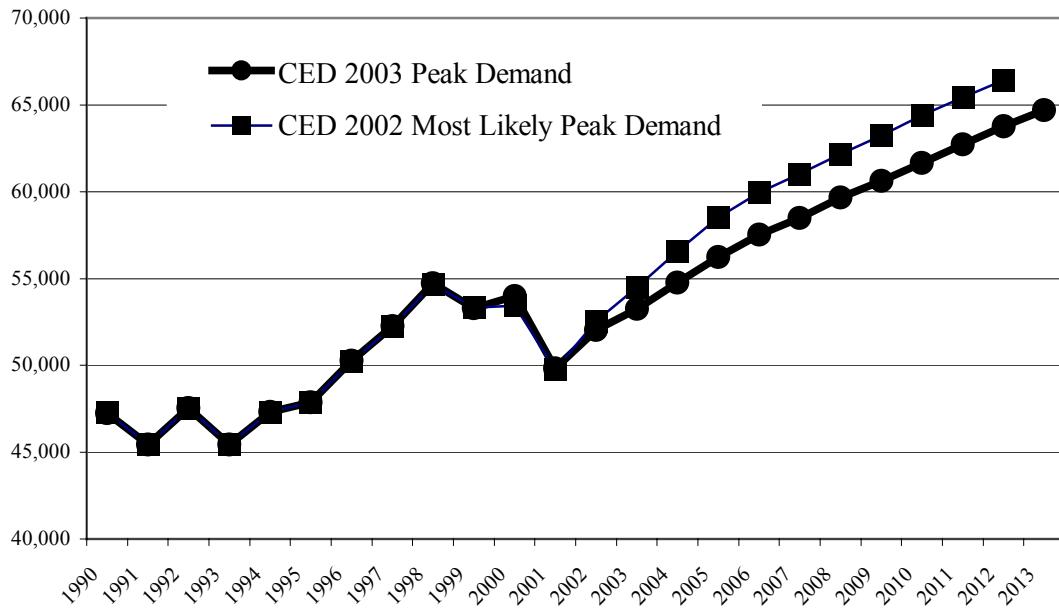
The Ad Hoc Integrated Energy Policy Report Committee will conduct a workshop on February 25-26, 2003, to receive public comments on this and several other staff draft reports. These reports and supporting tables will be posted on the Energy Commission website at: <http://www.energy.ca.gov/energypolicy/index.html>.

## Summary

This forecast is lower than previous forecasts, due largely to lower economic projections and the lingering effects of the energy crisis. After the sharp decrease in 2001 of 3.8 percent, annual energy consumption is expected to grow at an average of 2.1 percent over the next ten years. The 2003 peak demand forecast, shown in **Figure 1**, is also projected to grow at about 2 percent, or about 1150 megawatts (MW) per year. This is a somewhat slower rate of growth than the California Energy Demand 2002 (CED 2002) peak demand forecast, which projected average annual growth of 2.2 percent per year.

This forecast assumes no savings from energy efficiency programs funded in 2003 or later. While programs funded by the Public Goods Charge are certain to continue for several years, the amount and allocation is less certain. This approach eliminates concern about double counting of energy savings when comparing proposed 2003 program savings with the Energy Commission forecast.

**Figure 1**  
**Noncoincident Statewide Peak Demand (MW)**



## Baseline Energy Demand Forecast

The demand forecast presented in this document is reported on a statewide and sector basis. It provides that information by traditional utility planning areas and also by transmission congestion zones established by CAISO. The estimates also include the impacts of committed energy efficiency programs that have been funded and implemented through 2002. These “committed” programs continue after 2002 with declining level of impacts. The demand forecast does not include the impacts of new program spending in 2003 or beyond, nor does it include any future effects of measures to increase demand responsiveness.

## Electricity Consumption

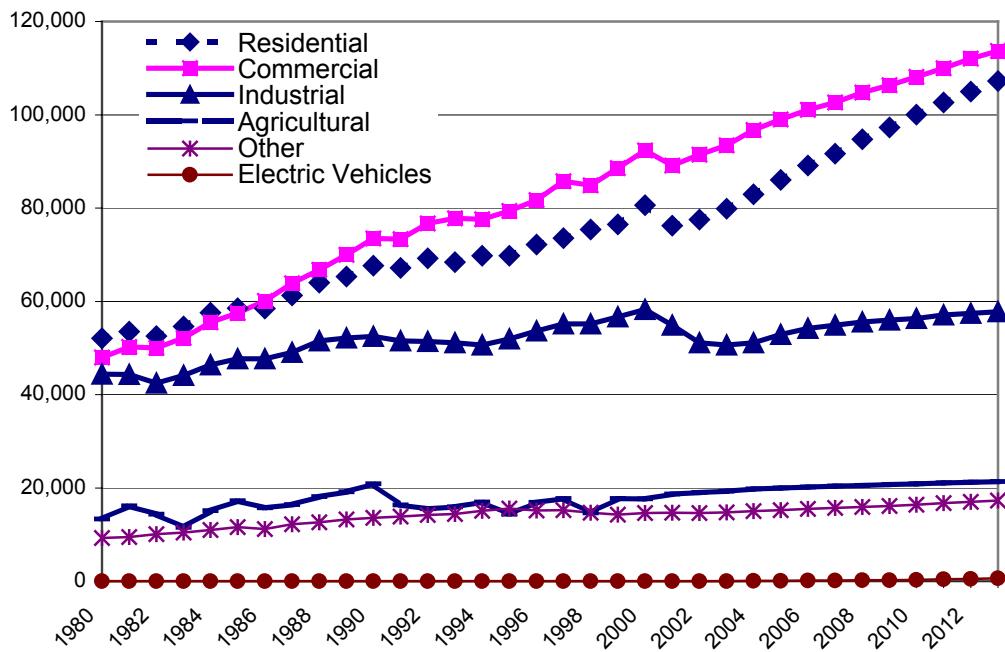
**Table 1** shows historical and forecast electricity consumption for major utilities for selected years. These data include loads served by private supply (self-generation or distributed generation), but do not include energy losses.

Over the forecast period, consumption is expected to grow at a slightly faster rate than the 1990s, but not as strong as 1980s growth. This is consistent with the underlying economic forecast projecting a slow recovery beginning in 2004. Over the short term (2001-2006) consumption is projected to grow at 2 percent per year, while over the next ten years (2003-2013) growth is expected to average 2.1 percent per year. **Figure 2** shows consumption by economic sector. The residential sector is projected to grow the fastest, at an average of 3 percent per year, while the commercial sector is projected to grow at 2 percent per year.

**Table 1**  
**Electricity Consumption by Utility Planning Area**  
**(GWh)**

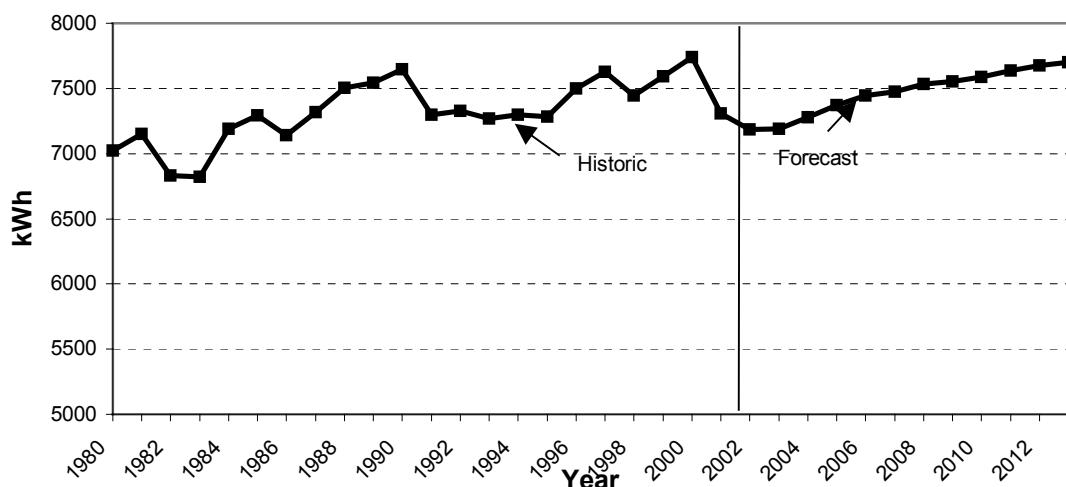
	PG&E	SMUD	SCE	LADWP	SDG&E	BGP	OTH	DWR	TOTAL
1980	66,197	5,352	59,624	17,669	9,729	2,374	2,677	3,354	166,978
1990	86,806	8,358	81,673	21,971	14,798	2,951	3,310	8,171	228,039
2000	101,980	9,491	96,496	23,803	18,684	3,320	4,227	5,490	263,493
2001	98,748	9,334	90,506	23,265	17,908	3,275	4,230	6,349	253,614
2002	97,888	9,529	90,513	23,314	18,604	3,320	4,211	6,349	253,729
2006	108,133	10,437	101,173	25,202	20,758	3,536	4,600	6,349	280,188
2013	122,436	11,647	116,444	27,179	24,580	3,760	5,453	6,349	317,849
Annual Growth Rates (%)									
1980-1990	2.7	4.6	3.2	2.2	4.3	2.2	2.1	9.3	3.2
1990-2000	1.6	1.3	1.7	0.8	2.4	1.2	2.5	-3.9	1.5
2000-2001	-3.2	-1.7	-6.2	-2.3	-4.2	-1.4	0.1	15.6	-3.7
2001-2006	1.8	2.3	2.3	1.6	3.0	1.5	1.7	0.0	2.0
2006-2013	1.8	1.6	2.0	1.1	2.4	0.9	2.5	0.0	1.8

**Figure 2**  
**Electricity Consumption by Sector**  
**(GWh)**



**Figure 3** shows electricity consumption per capita. Through the 1990s per capita consumption was virtually constant, increasing by an average of only a 0.1 percent per year. After a decrease in 2001 and 2002 as a result of conservation efforts and weak economic conditions, per capita consumption will return to a steady increase. In the next decade, the population will increase 15 percent to almost 40 million, while the state's economy is expected to expand 32 percent in the same period. Electricity use will grow 23 percent, faster than the population but only at two-thirds the rate of the economy. This is driven by growth in personal income and diminished voluntary conservation. The growth rate of this rising demand has been mitigated by long-standing energy efficiency policies, so that even though more electricity is used, it is used more efficiently.

**Figure 3**  
**California Electricity Consumption**  
**kWh per Capita 1980-2013**



## Private Supply

Electricity consumption needs that are met by self-generation or distributed generation reduce the demands on the grid. After several years of no growth, this privately supplied energy appears to be increasing. This is a result of the energy crisis, changes in the regulatory environment, and higher electricity rates, but it is not yet clear whether this more favorable environment will continue. To account for increases in private supply in the forecast, staff estimated peak load and consumption for 2002 and 2003 using data from Pacific Gas and Electric (PG&E), Southern California Edison (SCE) and San Diego Gas and Electric (SDG&E) on new interconnect activity in their territories. After 2003, privately supplied load is assumed to grow at one percent per year. This conservative estimate is used because of the uncertainty of the effect of regulatory policy such as exit fees on the economic attractiveness

of private supply. **Table 2** and **Table 3** show, respectively, the amount of energy and peak demand met by private supply assumed in the forecast.

**Table 2**  
**Private Supply (GWh)**

<b>Year</b>	<b>PG&amp;E</b>	<b>SCE</b>	<b>LADWP</b>	<b>SDG&amp;E</b>	<b>Total</b>
2000	5,158	3,954	1,657	367	11,135
2001	5,196	3,422	1,690	358	10,667
2002	5,375	4,344	1,724	557	12,000
2003	5,506	4,459	1,724	648	12,337
2013	6,082	4,925	1,724	716	13,447
Annual Growth Rates (%)					
1990-2000	0.8	-13.4	2.0	-2.3	-4.2
2000-2001	3.4	26.9	2.0	55.4	12.5
2001-2002	2.4	2.6	0.0	16.4	2.8
2002-2003	1.0	1.0	0.0	1.0	0.9
2003-2013	0.8	-13.4	2.0	-2.3	-4.2

**Table 3**  
**Private Supply (MW)**

<b>Year</b>	<b>PG&amp;E</b>	<b>SCE</b>	<b>LADWP</b>	<b>SDG&amp;E</b>	<b>Total</b>
2000	854	596	180	58	1,688
2001	858	601	209	38	1,706
2002	890	655	209	71	1,824
2003	912	672	209	74	1,867
2013	1,007	742	209	82	2,040
Annual Growth Rates (%)					
2000-2001	0.5	0.8	16.1	-34.5	1.1
2001-2002	3.7	9.0	0.0	85.8	6.9
2002-2003	2.4	2.6	0.0	4.7	2.3
2003-2013	1.0	1.0	0.0	1.0	0.9

## Net Energy for Load

The electricity consumption data discussed above measured the amount of electricity customers used at their homes and businesses. Another measure of electricity use is the amount of electricity the grid must supply—net energy for load. Net energy for load includes electric losses and excludes loads served by private supply. Net energy for load is expected to grow at about two percent per year over the next decade. As **Table 4** shows, the most rapid growth occurs between 2004 and 2008, due to a projected decline in electricity prices and a projected improvement in economic conditions.

**Table 4**  
**Net Energy for Load (GWh)**

	<b>PG&amp;E</b>	<b>SMUD</b>	<b>SCE</b>	<b>LADWP</b>	<b>SDG&amp;E</b>	<b>Other</b>	<b>Total State</b>
1990	90,764	8,893	83,694	23,782	15,348	27,902	250,383
2000	106,117	10,098	98,835	25,136	19,617	23,938	283,741
2001	102,532	9,931	93,006	24,487	18,794	25,703	274,453
2002	101,394	10,139	92,029	24,504	19,327	25,780	273,174
2006	112,296	11,105	103,147	26,647	21,515	26,692	301,402
2013	127,524	12,393	119,103	28,892	25,556	28,145	341,613
<b>Annual Growth Rates (%)</b>							
1990-2000	1.6	1.3	1.7	0.6	2.5	-1.5	1.3
2001-2006	1.8	2.3	2.1	1.7	2.7	0.8	1.9
2006-2013	1.8	1.6	2.1	1.2	2.5	0.8	1.8
2003-2013	2.2	1.7	2.4	1.4	2.6	0.8	2.1

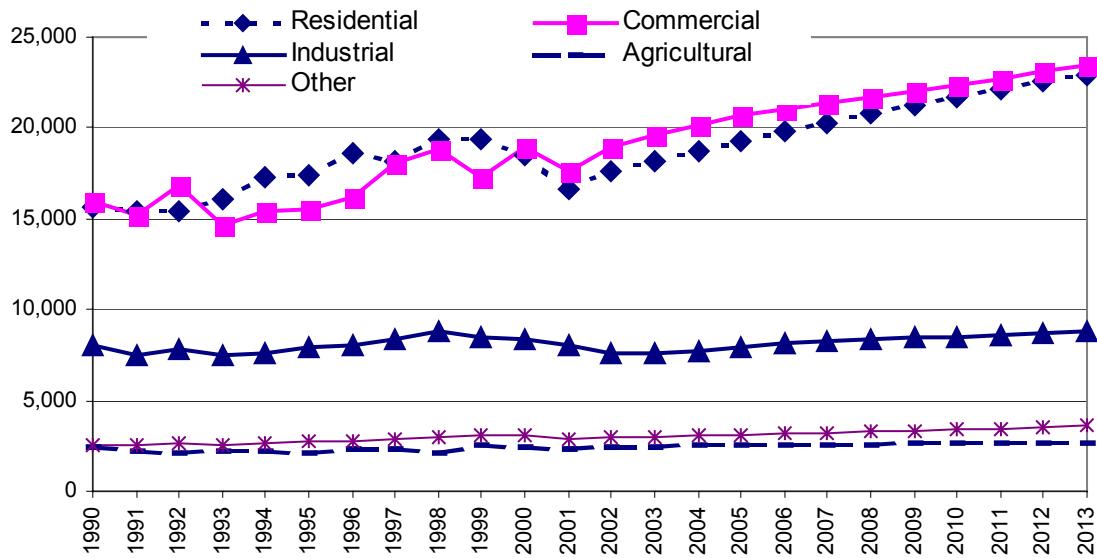
## Peak Demand

Peak demand, expressed in megawatts (MW), measures the largest electric power requirement during a specified period of time, usually integrated over one clock hour. Peak demand is important in evaluating system reliability, determining congestion points on the electric grid, and identifying potential areas where additional transmission, distribution, and generation facilities may be needed. **Table 5** below shows historical and forecast electric net peak demand for major utilities and for selected years. The data shown in Table 5 include transmission losses and exclude loads served by self-generation.

**Table 5**  
**Peak Demand by Utility Planning Area (MW)**

	<b>PG&amp;E</b>	<b>SMUD</b>	<b>SCE</b>	<b>LADWP</b>	<b>SDG&amp;E</b>	<b>BGP</b>	<b>OTH</b>	<b>DWR</b>	<b>TOTAL</b>
1990	17,250	2,195	17,647	5,312	2,973	812	801	241	47,231
2000	20,628	2,688	19,757	5,344	3,476	825	1,023	250	53,991
2001	19,413	2,485	17,890	4,805	3,147	781	1,024	289	49,834
2002	20,484	2,779	18,105	4,910	3,567	854	1,029	289	52,018
2006	21,526	2,782	21,101	5,607	4,185	891	1,132	289	57,513
2013	24,253	3,051	24,065	5,898	4,855	920	1,354	289	64,686
<b>Annual Growth Rates (%)</b>									
1990-2000	1.8	2.0	1.1	0.1	1.6	0.2	2.5	0.4	1.3
2000-2001	-5.9	-7.6	-9.4	-10.1	-9.5	-5.4	0.1	15.7	-8.0
2001-2006	2.1	2.3	3.4	3.1	5.9	2.0	2.9	2.1	2.3
2006-2013	1.7	1.3	1.9	0.7	2.1	0.5	2.6	0.0	1.7

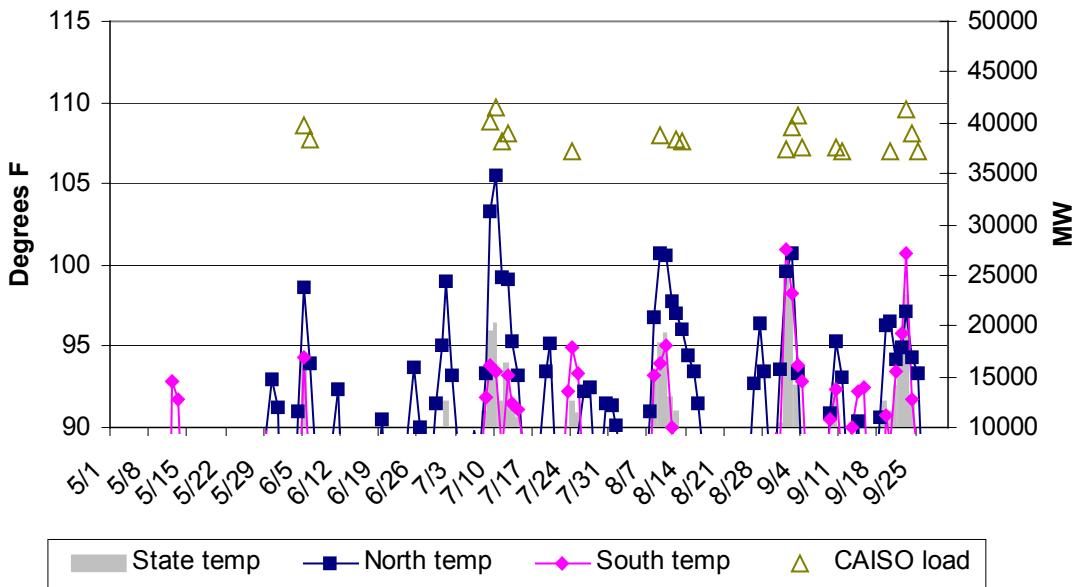
**Figure 4**  
**End Use Load by Sector (MW)**



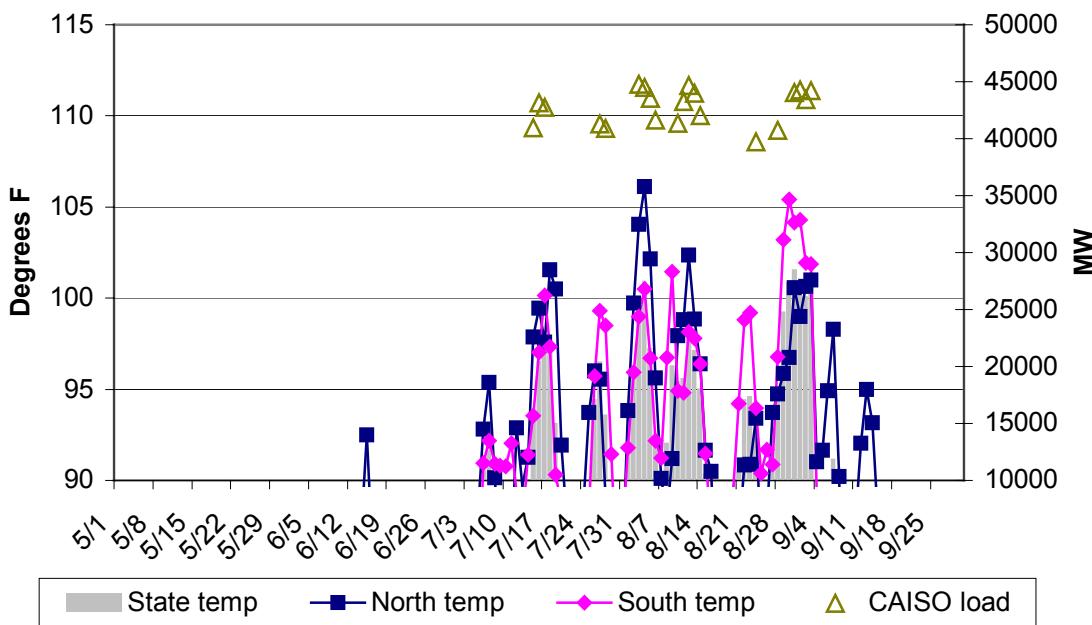
California's peak demand commonly occurs on a day in July or August between the hours of 3 and 5 P.M. High temperature leads to increased air conditioning use by residential and commercial customers. These increased air conditioning loads—in combination with industrial loads, commercial lighting and office equipment, and residential refrigerators—create the peak demand use in California.

California is too large to be thought of as a single climate. For analysis of summer peak, it is better split into north and south. Temperatures in the south peak later in the year (August or September), while the north peaks in July or early August. High loads are driven by a coincidence of high temperatures in both the north and south. **Figure 5** and **Figure 6** show the average temperatures and loads for the top twenty days in the CAISO area for 2002 and 1998 respectively. These figures show days with composite temperatures over 90 degrees in either the north or south. Composite temperatures are weighted by the saturation of residential air conditioning units in each forecast zone. The peaks in 1998 were much higher; temperatures were high in both the north and south. The summer of 1998 was the hottest of the last five summers in both the north and south.

**Figure 5**  
**2002 Maximum Temperatures and CAISO Top 20 Daily Peaks**



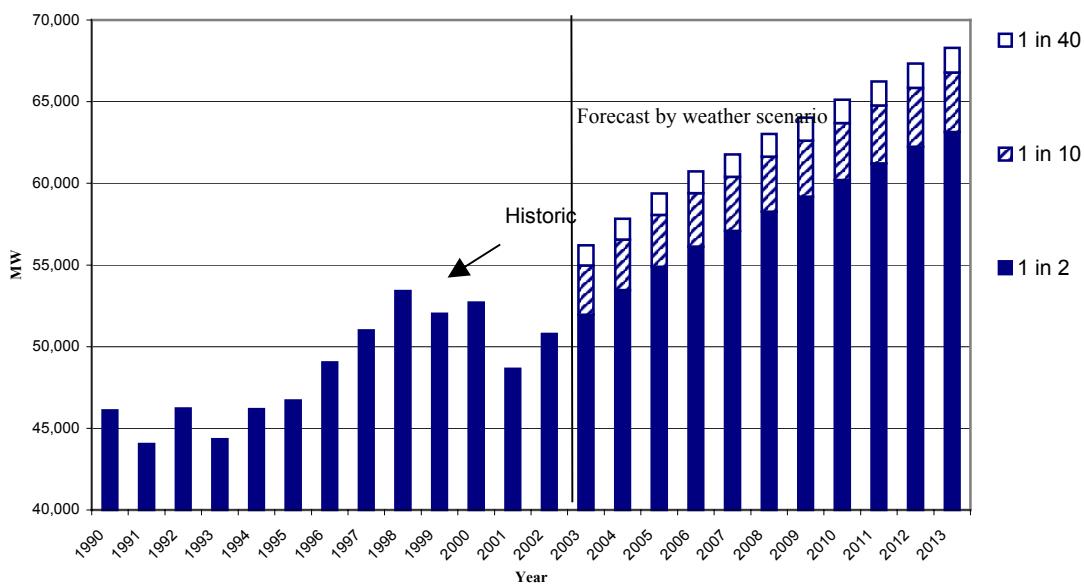
**Figure 6**  
**1998 Maximum Temperatures and CAISO Top 20 Daily Peaks**



The baseline peak demand forecast is based on typical temperatures—temperatures that are expected to occur one out of every two years (one-in-two). To account for warmer than

average temperatures, temperature sensitivities for one-in-two, -ten, and -forty weather conditions are applied to the baseline peak demand forecast. The resulting peak demand weather scenarios are shown in **Figure 7**. In the one-in-ten scenario demand is increased by 5.8 percent, while in the one-in-forty scenario demand is increased by 8.2 percent.

**Figure 7**  
**Coincident Peak Demand (MW)**  
**Normal and Hot Weather Scenarios**



### Peak Demand by ISO Zone

The CAISO control area is divided into geographic zones to aid in managing congestion. Congestion occurs on the grid when there is not enough transmission capacity to accommodate load, generation, or interchange requirements. The CAISO congestion zones are defined so that congestion within a zone is less frequent and less significant, while congestion across zones is frequent and significant.

CAISO operations use three active congestion zones: North of Path 15, South of Path 15 and Path 26. North of Path 15 is made up of the northern portion of the PG&E system, Sacramento Municipal Utility District (SMUD), Northern California Power Agency (NCPA), Modesto Irrigation District (MID), Turlock Irrigation District (TID), and the northern portion of the California Department of Water Resources (DWR) system. SCE, SDG&E, Pasadena, and the southern portion of the PG&E and DWR systems constitute the South of Path 15 zone. Path 26 is made up of the southern portion of the PG&E system (i.e., portions of Santa Barbara, San Luis Obispo, Kings, Tulare, and Kern counties that get electric service from PG&E).

**Table 6** shows the noncoincident and coincident peak demand for each zone. More detailed data on peak demand and net energy for load by CAISO Zone may be found in Appendix D, described at the end of this report.

**Table 6**  
**Peak Demand by CAISO Zone**

	Noncoincident Demand					Coincident Demand	
	North of Path 15	Path 26	South of Path 15	Total CAISO Demand	Total State	Total CAISO Demand	Total Statewide Demand
2000	18,788	1,901	23,713	47,090	53,991	45,962	52,699
2001	17,703	1,781	21,531	43,500	49,834	42,458	48,640
2002	18,661	1,893	22,193	42,747	52,018	41,723	50,773
2003	18,067	1,826	23,712	43,606	53,231	42,561	51,956
2013	22,090	2,233	29,464	53,787	64,686	52,499	63,137
Average Annual Growth (%)							
2001-2006	2.1	2.2	3.7	1.7	2.9	1.7	2.9
2006-2013	1.6	1.6	2.2	1.3	1.8	1.3	1.8

## Natural Gas Consumption

**Table 7** shows historical and forecast natural gas consumption for each major California natural gas utility service area—PG&E, SDG&E, and Southern California Gas (SCG). The data shown in Table 7 exclude natural gas used in the production of electricity.

End-use natural gas consumption dropped by 1.3 percent annually in the 1980s followed by an annual increase of 0.7 percent in the 1990s. Over the next ten years, natural gas use is expected to increase at a rate of 0.8 percent per year. This draft forecast will be revised soon using a new natural gas price forecast.

**Table 7**  
**Natural Gas Consumption by Utility Planning Area**  
**(Millions of Therms)**

Year	PG&E	SCG	SDG&E	Other	Total State
1990	5,192	8,249	678	95	14,214
2000	5,520	8,721	812	119	15,173
2006	5,473	8,716	1,012	124	15,325
2013	5,556	9,105	1,129	128	15,918
Average Annual Growth (%)					
1980-1990	-1.3	1.4	3.8	2.1	0.4
1990-2000	0.6	0.6	1.8	2.3	0.7
2003-2013	0.5	0.9	1.9	0.6	0.8

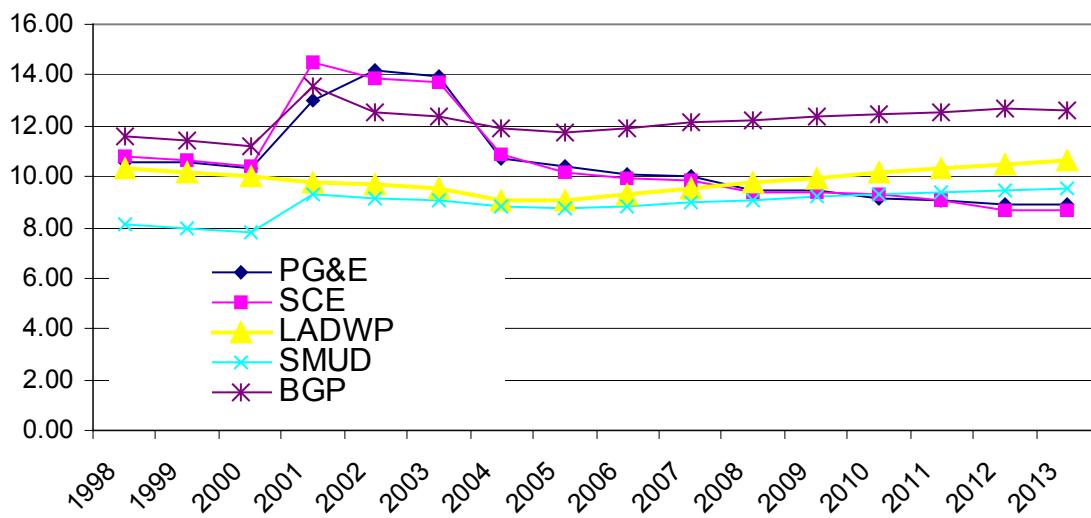
## Forecast Inputs and Assumptions

Energy use is a function of several factors. These include demographic growth, economic growth, price trends, and changes in customer behavior. Population, income, employment, and prices are shown below. Population and income are key drivers for the residential and commercial sectors. Employment is a driver for the industrial and commercial sectors.

### Energy Prices

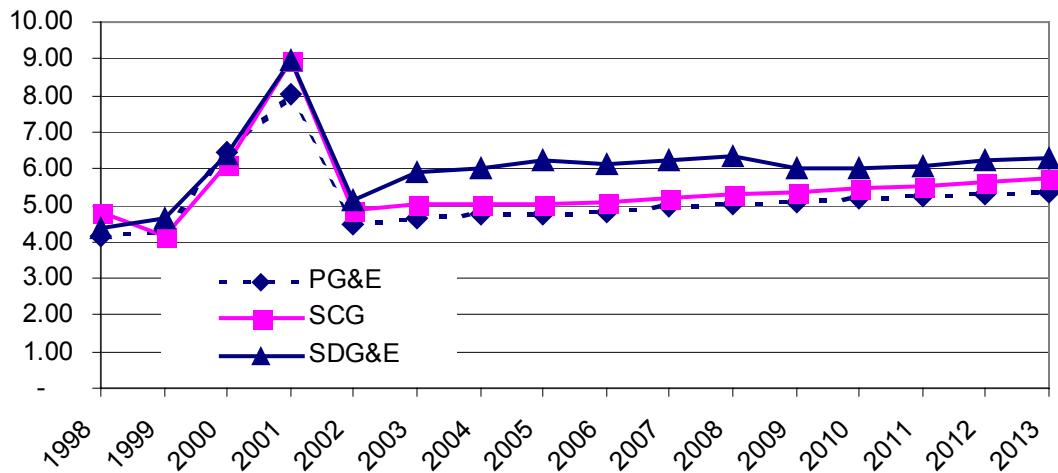
**Figure 8** shows average retail electricity rates for each planning area. After increasing in 2001 by 20 to 40 percent, investor-owned utility retail rates will stay high until 2004, when staff projects that bond costs will be paid off. Rates by publicly owned utilities stay relatively flat over the forecast period. The electricity price forecast used is discussed in more detail in *California Investor-Owned Utilities Retail Electricity Price Outlook 2003-2013*. (Publication #100-03-003SD)

**Figure 8**  
**System Average Electricity Rate Forecast**  
**(2001 cents/kWh)**



**Figure 9** shows the draft retail natural gas price forecast used in the forecast. After declining by more than 40 percent in 2002, the price paid by end users is projected to increase by less than 2 percent per year for the remainder of the forecast.

**Figure 9**  
**System Average Natural Gas Price Forecast**  
**(2001 \$ per MCF)**



## Economic and Demographic Assumptions

Staff develops a forecast of households using the California Department of Finance population projections. As **Table 8** shows, the fastest growing areas are Sacramento and “Rest of State,” which is predominately the Central Valley. The San Diego area is also expected to grow faster than the metropolitan areas of Los Angeles and San Francisco.

**Table 8**  
**Population**  
**Average Annual Growth (%)**

	Los Angeles Basin	San Francisco Bay Area	San Diego	Sacramento	Rest of State	Total State
1980-1990	2.3	1.5	2.9	3.0	2.6	2.3
1990-2001	1.1	1.1	1.1	1.8	1.4	1.2
2001-2006	1.4	1.3	1.9	2.2	2.2	1.6
2006-2013	1.3	0.9	1.3	1.7	1.9	1.3

Projections of personal income and employment are derived from the University of California at Los Angeles (UCLA) Anderson School of Business California forecast of September 2002. This forecast assumes that a recovery will begin in late 2003, followed by steady growth, but at a lower rate than previous recoveries. As **Table 9** shows, personal income grows faster in the latter-half of the forecast.

**Table 9**  
**Real Personal Income**  
**Average Annual Growth (%)**

	<b>Los Angeles Basin</b>	<b>San Diego</b>	<b>San Francisco Bay Area</b>	<b>Sacramento</b>	<b>Rest of State</b>	<b>Total State</b>
1980-1990	3.5	3.2	4.5	4.4	2.8	3.4
1990-2001	2.2	4.1	2.8	3.4	2.6	2.8
2001-2006	2.2	1.9	2.1	2.5	2.2	2.1
2006-2013	3.3	3.2	3.8	4.1	3.6	3.4

Weak job growth is a contributing factor to slow growth in energy demand. After three anemic years (2001-2003), employment, shown in **Table 10**, is expected to resume growing by more than two percent per year in 2004.

**Table 10**  
**Employment**  
**Average Annual Growth (%)**

	<b>Los Angeles Basin</b>	<b>San Diego</b>	<b>San Francisco Bay Area</b>	<b>Sacramento</b>	<b>Rest of State</b>	<b>Total State</b>
1980-1990	2.6	4.0	6.3	5.2	6.0	3.6
1990-2001	0.9	1.9	2.2	2.8	2.0	1.5
2001-2006	1.9	1.3	1.6	2.3	1.7	1.7
2006-2013	1.7	1.7	2.0	2.3	1.9	1.8

## Energy Efficiency

This forecast includes the effects of committed energy efficiency programs that have been funded and implemented through 2002. These “committed” programs continue after 2002 with declining levels of impacts. **Table 11** below shows, for the three major utilities, the amount of energy savings from these programs that has been accounted for in the demand forecast.

This forecast does not include savings from energy efficiency programs from 2003 on. While it is certain that some level of energy efficiency program funding will continue, the amount will be affected by California Public Utilities Commission (CPUC) proceedings. The investor-owned utilities are expected to propose modifications to energy efficiency funding

as part of the CPUC procurement proceeding. Because no 2003 savings are in the baseline, any funding and program proposals for 2003 and following will be incremental to this forecast.

**Table 11**  
**Energy Efficiency Adjustments to the Forecast**  
**GWh**

	<b>PG&amp;E</b>	<b>SCE</b>	<b>SDG&amp;E</b>
2002	876	761	254
2003	842	760	253
2004	811	759	251
2005	785	757	247
2006	759	754	243
2007	731	749	237
2008	696	741	231
2009	645	726	223
2010	571	700	213
2011	478	656	199
2012	383	597	180
2013	305	531	161

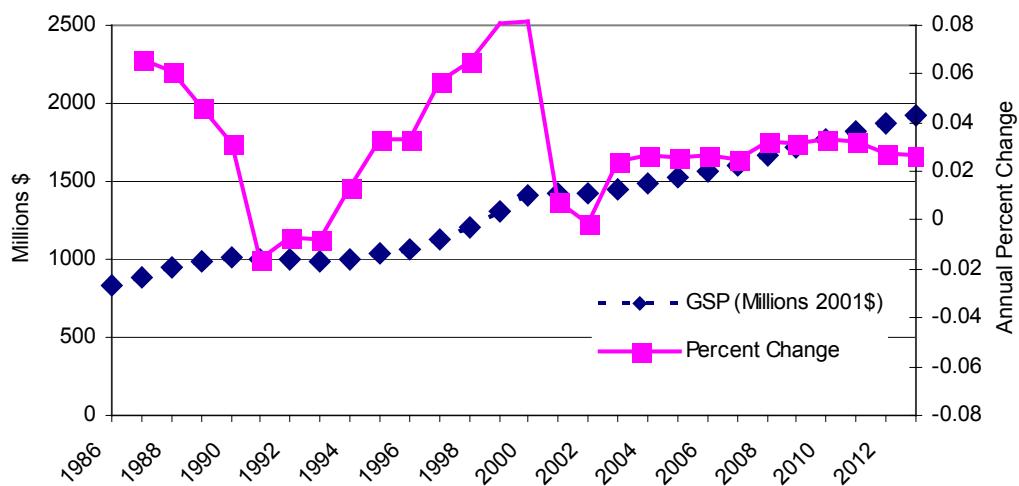
The crisis of the summer of 2001 led to a dramatic drop in consumption and peak, both from investments in energy efficiency and through voluntary conservation (i.e., not running air conditioners as much). While savings from investments will largely persist, the voluntary conservation effect may degrade much more rapidly. Because the Energy Commission's forecasting models are calibrated to the long run historical trend, staff's assessment is that this forecast is generally consistent with the amount of rebound we are seeing to date.

## Scenarios for the IERP

The draft forecast proposed here is a baseline. Staff is proposing to develop demand scenarios to address variation in economic conditions, investments in energy efficiency, and natural gas prices. A low demand scenario will reflect a low economic forecast combined with increased energy efficiency and private supply. A high demand scenario will incorporate stronger economic growth, diminished efficiency and conservation (a greater rebound from 2001 voluntary conservation levels), and declining private supply.

Long run forecasts of economic conditions typically will not capture variation in economic indicators due to the business cycle. In this forecast, that effect may be amplified. The national economic forecast underlying this demand forecast assumes that during the upcoming late recovery growth averages 4 percent compared to a typical late recovery period of 6 percent. To illustrate, **Figure 10** shows historic and forecast gross state product since 1986. The annual growth rate of the forecast is much more stable than what California has experienced over the last two decades. It is plausible that at some point in the forecast period California could experience several years of either sustained growth or declines significantly different from the forecast. The economic components of the high and low scenarios will be designed to capture this possibility.

**Figure 10**  
**Gross State Product**  
(2001 \$)



The amount of 2003 and future year energy efficiency funding will likely be addressed in the CPUC Procurement Proceeding (R0110024). Depending on the timing and amount of information available, staff may use the investor-owned utilities' procurement plans as a starting point for assumptions about high and low energy efficiency savings.

Finally, staff in the Natural Gas Unit will develop high and low gas price forecasts to be used in combination with the economic scenarios.

## Basic Definitions and Model Documentation

In analyzing energy consumption patterns, the utility remains the basic unit of analysis for this forecast. It is the local utility that provides the bulk of energy service components to consumers and collects data from them. Within each utility, residential and commercial energy consumption patterns, which account for approximately two-thirds of all energy use, are influenced by weather within the various climate zones. Therefore, these two sectors are modeled by climate zone and the results aggregated to the utility service planning area.

Annual consumption data are reported by eight electric planning areas and four natural gas distribution regions, as shown in **Table 12**. The geographic regions include the traditional areas served by each utility, and in some cases, extend to include municipalities and irrigation districts that are not served directly by the larger investor-owned utility. For example, the PG&E electric planning area includes the cities of Redding and Santa Clara, the NCPA, and the irrigation districts of Modesto and Turlock. The SCE planning area includes the cities of Anaheim, Anza, Azusa, Banning, Colton, Riverside, Vernon and the Metropolitan and Southern California Water Districts. For the purposes of this report, a planning area denotes a geographic region of an electric investor-owned utility in which there resides municipal utilities and/or irrigation districts. An electric service area denotes a geographic area for which a single utility provides electric distribution services. Natural gas service territories include municipal gas utilities.

**Table 12**  
**Geographic Consumption Areas**

Electricity Planning/Service Areas	Natural Gas Service Territories
Pacific Gas and Electric (PG&E)	Pacific Gas and Electric (PG&E)
Sacramento Municipal Utility District (SMUD)	
Southern California Edison (SCE)	Southern California Gas (SCG)
Los Angeles Department of Water and Power (LADWP)	
Cities of Burbank, Glendale, and Pasadena (BG&P)	
San Diego Gas and Electric (SDG&E)	San Diego Gas and Electric (SDG&E)
Other Planning Area (Other)	Other Gas Territory (Other)
Department of Water Resources (DWR)	

The Other planning area accounts for demand centers located in counties adjacent to the California-Oregon border, Mount Shasta, Lake Tahoe, and a portion of the Mojave Desert. Electric utility distribution companies serving these regions include Imperial Irrigation District, Pacific Power and Light, Sierra Pacific Power, and the Surprise Valley Cooperative. Gas utilities in this category include Washington Water and Power in the north and Southwest Gas Corporation in the south.

The forecasts in this forecast were prepared using end-use forecasting models developed at the Energy Commission, with the exception of the industrial sector, for which the staff used the Industrial End-use Forecasting Model (INFORM) originally developed by the Electric Power Research Institute (EPRI). The staff also used EPRI's Hourly Electric Load Model (HELM) to determine peak electricity demand. Each model develops a forecast using a complex series of calculations that simultaneously considers economic factors, population, weather characteristics, changes in energy utilization, regulatory conditions, and recorded consumption. Detailed descriptions of the models used by the staff, with the exception of the industrial sector, are contained in *California Energy Demand: 1995-2015, Volume II Electricity Demand Forecasting Models*, July 1995, Publication Number P300-95-005. For a description of the industrial sector forecast methodologies, refer to EPRI's INFORM documentation.

## **Appendices**

More detailed forecast results are published in the following appendices, posted at <http://www.energy.ca.gov/energypolicy/index.html>

### **Appendix A: Electricity Consumption By Sector**

This appendix provides recorded and forecast electricity consumption by sector and by utility.

### **Appendix B: Net Energy For Load**

This appendix provides recorded and forecast net energy for load by utility.

### **Appendix C: Peak Demand By Sector**

This appendix provides recorded and forecast peak demand by sector and by utility.

### **Appendix D: System Peak Demand**

This appendix provides recorded and forecast system peak demand by utility and by CAISO congestion zones, and includes net energy for load by CAISO congestion zones.

## **Appendix A: Electricity Consumption By Sector**

This appendix provides recorded and forecast electricity consumption by sector and by utility.

**TABLE A-1**  
**Staff's Outlook for the PG&E Planning Area**  
**Electricity Consumption by Sector (GWh)**

Year	Residential	Commercial	Industrial	Agricultural	Other	Electric Vehicles	Total Consumption
1980	21,424	16,723	18,571	5,743	3,736	0	66,197
1981	21,632	17,732	18,158	6,318	3,812	0	67,653
1982	21,116	17,818	17,864	5,237	4,007	0	66,043
1983	21,858	18,790	18,879	4,879	4,091	0	68,497
1984	22,883	19,716	19,897	6,319	4,527	0	73,341
1985	23,292	20,434	20,694	6,319	4,877	0	75,617
1986	23,180	21,023	20,536	5,301	4,355	0	74,394
1987	24,278	22,583	21,163	6,048	4,889	0	78,962
1988	25,041	23,749	22,116	6,398	4,838	0	82,141
1989	25,389	25,246	22,416	6,482	4,996	0	84,529
1990	25,844	26,411	22,948	6,518	5,085	0	86,806
1991	26,308	26,734	22,765	5,893	5,230	0	86,929
1992	26,412	27,681	22,834	6,083	5,316	0	88,326
1993	26,781	28,059	23,126	5,855	5,419	0	89,239
1994	27,013	28,204	23,251	5,778	5,336	0	89,582
1995	27,080	28,882	23,975	5,385	5,440	0	90,763
1996	28,120	29,909	24,186	5,728	5,521	0	93,464
1997	28,599	31,624	25,463	5,980	5,413	0	97,078
1998	29,596	30,334	25,393	5,105	5,255	0	95,682
1999	30,521	32,630	24,783	6,008	5,265	0	99,205
2000	31,646	33,896	24,894	6,007	5,537	0	101,980
2001	29,792	32,142	25,356	6,036	5,421	0	98,748
2002	30,693	33,120	22,372	6,197	5,504	1	97,888
2003	31,576	33,829	22,116	6,288	5,566	3	99,378
2004	32,791	35,209	22,195	6,623	5,680	6	102,504
2005	34,019	36,029	22,923	6,674	5,780	9	105,434
2006	35,213	36,922	23,370	6,737	5,879	13	108,133
2007	36,208	37,557	23,613	6,767	5,973	16	110,135
2008	37,454	38,523	23,932	6,790	6,065	20	112,784
2009	38,460	39,126	24,080	6,810	6,167	24	114,668
2010	39,562	39,940	24,223	6,835	6,262	30	116,851
2011	40,573	40,597	24,472	6,849	6,370	40	118,901
2012	41,492	41,299	24,615	6,866	6,453	50	120,774
2013	42,395	41,868	24,730	6,852	6,531	60	122,436

**Annual Growth Rates (%)**

1980-1990	1.9	4.7	2.1	1.3	3.1	2.7
1990-2000	2.0	2.5	0.8	-0.8	0.9	1.6
2000-2001	-5.9	-5.2	1.9	0.5	-2.1	-3.2
2001-2006	3.4	2.8	-1.6	2.2	1.6	1.8
2006-2013	2.7	1.8	0.8	0.2	1.5	25.1
2003-2013	3.0	2.2	1.1	0.9	1.6	34.9
						1.8
						2.1

California Energy Demand 2003 - Baseline forecast for the IEPR

30-Jan-03

Historic Data through 2001

Includes private supply (self-generation)

**TABLE A-2**  
**Staff's Outlook for the SMUD Area**  
**Electricity Consumption by Sector (GWh)**

Year	Residential	Commercial	Industrial	Agricultural	Other	Electric Vehicles	Total Consumption
1980	2,587	1,988	325	112	340	0	5,352
1981	2,794	2,055	336	122	387	0	5,694
1982	2,781	2,088	328	108	377	0	5,681
1983	2,910	2,120	369	94	462	0	5,954
1984	3,086	2,234	452	113	475	0	6,360
1985	3,193	2,452	585	115	536	0	6,882
1986	3,107	2,672	630	102	503	0	7,015
1987	3,229	3,004	543	115	529	0	7,420
1988	3,326	3,044	634	106	567	0	7,678
1989	3,359	3,134	726	98	612	0	7,927
1990	3,611	3,214	772	108	654	0	8,358
1991	3,603	3,151	788	120	688	0	8,350
1992	3,626	3,277	783	131	679	0	8,497
1993	3,636	3,290	760	134	615	0	8,435
1994	3,662	3,287	755	146	568	0	8,418
1995	3,604	3,340	757	140	616	0	8,458
1996	3,808	3,411	812	151	624	0	8,805
1997	3,839	3,537	817	164	649	0	9,006
1998	3,959	3,537	862	125	640	0	9,123
1999	3,966	3,650	909	162	639	0	9,326
2000	4,135	3,698	899	147	612	0	9,491
2001	3,960	3,825	862	145	542	0	9,334
2002	4,002	4,053	774	159	541	0	9,529
2003	4,154	4,171	768	162	550	1	9,805
2004	4,271	4,259	778	165	558	2	10,033
2005	4,381	4,326	801	168	567	4	10,245
2006	4,502	4,367	816	171	577	5	10,437
2007	4,601	4,393	841	174	587	6	10,602
2008	4,722	4,422	864	177	596	8	10,789
2009	4,826	4,449	885	180	605	9	10,955
2010	4,942	4,479	899	183	615	12	11,130
2011	5,052	4,503	917	185	625	16	11,298
2012	5,158	4,539	932	188	634	20	11,470
2013	5,268	4,578	944	191	643	23	11,647

**Annual Growth Rates (%)**

1980-1990	3.4	4.9	9.0	-0.4	6.8	4.6	
1990-2000	1.4	1.4	1.5	3.2	-0.7	1.3	
2000-2001	-4.2	3.4	-4.1	-1.6	-11.4	-1.7	
2001-2006	2.6	2.7	-1.1	3.3	1.3	2.3	
2006-2013	2.3	0.7	2.1	1.6	1.5	25.1	1.6
2003-2013	2.4	0.9	2.1	1.7	1.6	34.9	1.7

California Energy Demand 2003 - Baseline forecast for the IEPR  
 Historic Data through 2001

Includes private supply (self-generation)

**TABLE A-3**  
**Staff's Outlook for the SCE Area**  
**Electricity Consumption by Sector (GWh)**

Year	Residential	Commercial	Industrial	Agricultural	Other	Electric Vehicles	Total Consumption
1980	16,965	16,778	19,562	3,500	2,819	0	59,624
1981	17,710	17,475	19,798	3,753	2,859	0	61,594
1982	17,389	17,243	18,436	3,231	3,202	0	59,501
1983	18,205	18,037	19,022	3,423	3,319	0	62,006
1984	19,395	19,286	19,867	4,616	3,444	0	66,608
1985	19,751	19,882	20,303	4,667	3,601	0	68,203
1986	19,877	20,845	20,389	4,623	3,762	0	69,496
1987	20,894	22,025	21,299	4,816	3,965	0	72,999
1988	22,124	23,137	22,487	4,868	4,082	0	76,698
1989	22,620	24,354	22,725	4,359	4,360	0	78,417
1990	23,684	25,702	22,542	5,240	4,505	0	81,673
1991	23,039	25,585	21,889	5,231	4,480	0	80,223
1992	24,210	26,835	21,826	4,443	4,727	0	82,041
1993	23,362	26,800	21,436	4,871	4,664	0	81,133
1994	24,190	26,785	21,022	5,355	5,447	0	82,800
1995	24,097	27,097	21,512	4,482	5,667	0	82,855
1996	24,738	28,252	22,389	5,048	5,300	0	85,728
1997	25,270	29,574	23,051	5,231	5,256	0	88,382
1998	25,749	29,488	22,870	5,192	5,136	0	88,434
1999	25,726	30,339	24,981	5,163	4,804	0	91,013
2000	27,980	32,401	26,012	5,154	4,949	0	96,496
2001	26,132	31,298	22,923	5,270	4,883	0	90,506
2002	26,362	31,442	22,420	5,450	4,833	6	90,513
2003	27,152	32,163	22,227	5,572	4,879	17	92,010
2004	28,280	33,480	22,554	5,742	4,940	34	95,030
2005	29,443	34,513	23,433	5,864	4,996	50	98,300
2006	30,650	35,267	24,132	5,981	5,074	70	101,173
2007	31,584	35,869	24,536	6,110	5,147	90	103,336
2008	32,753	36,596	24,838	6,244	5,217	112	105,759
2009	33,691	37,236	25,034	6,381	5,288	134	107,764
2010	34,715	37,894	25,246	6,520	5,358	168	109,902
2011	35,671	38,688	25,594	6,653	5,436	224	112,267
2012	36,526	39,650	25,777	6,790	5,504	280	114,527
2013	37,365	40,319	25,955	6,898	5,571	336	116,444

**Annual Growth Rates (%)**

1980-1990	3.4	4.4	1.4	4.1	4.8	3.2
1990-2000	1.7	2.3	1.4	-0.2	0.9	1.7
2000-2001	-6.6	-3.4	-11.9	2.3	-1.3	-6.2
2001-2006	3.2	2.4	1.0	2.6	0.8	2.3
2006-2013	2.9	1.9	1.0	2.1	1.3	25.1
2003-2013	3.2	2.3	1.6	2.2	1.3	34.9
						2.4

California Energy Demand 2003 - Baseline forecast for the IEPR

Historic Data through 2001

Includes private supply (self-generation)

**TABLE A-4**  
**Staff's Outlook for the LADWP Area**  
**Electricity Consumption by Sector (GWh)**

Year	Residential	Commercial	Industrial	Agricultural	Other	Electric Vehicles	Total Consumption
1980	5,357	6,975	4,069	113	1,155	0	17,669
1981	5,587	7,293	4,130	137	1,192	0	18,340
1982	5,529	7,263	4,070	125	1,197	0	18,184
1983	5,794	7,457	4,086	112	1,273	0	18,722
1984	6,157	8,009	4,194	156	1,261	0	19,777
1985	6,092	8,180	4,082	145	1,260	0	19,760
1986	6,033	8,604	4,044	137	1,276	0	20,094
1987	6,222	9,010	3,949	157	1,434	0	20,772
1988	6,482	9,279	4,027	202	1,449	0	21,439
1989	6,601	9,350	3,927	180	1,497	0	21,555
1990	6,835	9,769	3,733	156	1,479	0	21,971
1991	6,620	9,606	3,757	133	1,518	0	21,635
1992	7,000	9,832	3,579	155	1,487	0	22,052
1993	6,726	10,381	3,519	130	1,641	0	22,396
1994	6,723	9,894	3,400	150	1,639	0	21,805
1995	6,788	10,342	3,556	140	1,699	0	22,526
1996	6,917	10,056	3,950	175	1,660	0	22,758
1997	7,106	10,472	3,639	179	1,771	0	23,166
1998	7,183	10,396	3,680	173	1,572	0	23,004
1999	7,140	10,484	3,612	223	1,600	0	23,058
2000	7,519	10,787	3,582	181	1,733	0	23,803
2001	7,313	10,445	3,458	173	1,876	0	23,265
2002	7,170	10,956	3,231	181	1,773	2	23,314
2003	7,453	11,136	3,229	183	1,778	6	23,785
2004	7,717	11,311	3,247	184	1,783	13	24,255
2005	7,987	11,443	3,346	185	1,787	19	24,768
2006	8,257	11,531	3,397	186	1,803	27	25,202
2007	8,445	11,597	3,392	187	1,817	35	25,473
2008	8,689	11,665	3,373	189	1,828	43	25,787
2009	8,873	11,736	3,324	190	1,839	52	26,014
2010	9,076	11,791	3,318	192	1,851	65	26,294
2011	9,268	11,861	3,331	193	1,870	86	26,608
2012	9,432	11,920	3,312	194	1,879	108	26,846
2013	9,595	12,072	3,297	197	1,888	130	27,179

**Annual Growth Rates (%)**

1980-1990	2.5	3.4	-0.9	3.2	2.5		2.2
1990-2000	1.0	1.0	-0.4	1.5	1.6		0.8
2000-2001	-2.7	-3.2	-3.5	-4.5	8.2		-2.3
2001-2006	2.5	2.0	-0.4	1.4	-0.8		1.6
2006-2013	2.2	0.7	-0.4	0.9	0.7	25.1	1.1
2003-2013	2.6	0.8	0.2	0.8	0.6	34.9	1.3

California Energy Demand 2003 - Baseline forecast for the IEPR  
 Historic Data through 2001

Includes private supply (self-generation)

**TABLE A-5**  
**Staff's Outlook for the SDG&E Area**  
**Electricity Consumption by Sector (GWh)**

Year	Residential	Commercial	Industrial	Agricultural	Other	Electric Vehicles	Total Consumption
1980	3,884	3,624	1,006	195	1,021	0	9,729
1981	3,852	3,688	1,066	229	1,040	0	9,875
1982	3,861	3,666	1,038	197	1,060	0	9,823
1983	3,911	3,831	1,053	197	1,081	0	10,073
1984	4,058	4,218	1,203	241	1,039	0	10,760
1985	4,252	4,415	1,252	215	1,046	0	11,180
1986	4,325	4,834	1,277	226	1,009	0	11,670
1987	4,640	5,092	1,343	215	1,077	0	12,367
1988	4,929	5,258	1,460	240	1,350	0	13,237
1989	5,146	5,600	1,556	254	1,373	0	13,929
1990	5,423	5,988	1,730	240	1,416	0	14,798
1991	5,335	5,893	1,702	207	1,504	0	14,642
1992	5,611	6,432	1,739	213	1,544	0	15,540
1993	5,551	6,438	1,667	212	1,582	0	15,451
1994	5,736	6,548	1,652	233	1,621	0	15,791
1995	5,731	6,699	1,647	229	1,617	0	15,923
1996	5,937	7,021	1,837	258	1,547	0	16,600
1997	6,125	7,383	1,718	283	1,623	0	17,132
1998	6,321	7,839	1,843	218	1,590	0	17,812
1999	6,454	8,114	1,922	241	1,611	0	18,342
2000	6,515	8,110	2,346	244	1,469	0	18,684
2001	6,225	8,018	1,865	233	1,567	0	17,908
2002	6,470	8,443	1,864	265	1,562	1	18,604
2003	6,659	8,644	1,865	274	1,578	2	19,022
2004	6,914	8,879	1,898	284	1,604	4	19,582
2005	7,179	9,099	1,962	293	1,628	5	20,166
2006	7,441	9,330	2,022	301	1,656	8	20,758
2007	7,677	9,518	2,076	308	1,681	10	21,271
2008	7,965	9,800	2,136	315	1,707	12	21,934
2009	8,211	9,987	2,190	320	1,731	15	22,454
2010	8,470	10,174	2,233	324	1,749	18	22,970
2011	8,717	10,393	2,291	328	1,769	24	23,522
2012	8,946	10,665	2,329	332	1,789	31	24,092
2013	9,174	10,859	2,365	337	1,809	37	24,580

**Annual Growth Rates (%)**

1980-1990	3.4	5.2	5.6	2.1	3.3	4.3	
1990-2000	1.9	3.1	3.1	0.2	0.4	2.4	
2000-2001	-4.5	-1.1	-20.5	-4.7	6.7	-4.2	
2001-2006	3.6	3.1	1.6	5.3	1.1	3.0	
2006-2013	3.0	2.2	2.3	1.6	1.3	25.1	2.4
2003-2013	3.3	2.3	2.4	2.1	1.4	34.9	2.6

California Energy Demand 2003 - Baseline forecast for the IEPR  
Historic Data through 2001

Includes private supply (self-generation)

**TABLE A-6**  
**Staff's Outlook for the BGP Area**  
**Electricity Consumption by Sector (GWh)**

Year	Residential	Commercial	Industrial	Agricultural	Other	Electric Vehicles	Total Consumption
1980	616	1,058	604	12	85	0	2,374
1981	641	1,122	595	9	84	0	2,452
1982	647	1,123	534	9	86	0	2,399
1983	681	1,108	527	21	95	0	2,433
1984	730	1,207	578	32	97	0	2,644
1985	715	1,272	579	32	100	0	2,699
1986	714	1,273	577	30	102	0	2,695
1987	735	1,284	592	34	110	0	2,754
1988	783	1,344	597	36	100	0	2,861
1989	785	1,331	564	37	96	0	2,813
1990	858	1,425	537	33	99	0	2,951
1991	797	1,408	429	29	97	0	2,759
1992	842	1,552	407	28	102	0	2,931
1993	825	1,680	355	28	108	0	2,996
1994	839	1,689	330	30	110	0	2,999
1995	862	1,785	289	33	116	0	3,084
1996	875	1,877	271	29	100	0	3,152
1997	889	1,921	269	28	128	0	3,236
1998	896	1,973	282	27	120	0	3,298
1999	876	1,974	256	27	107	0	3,240
2000	903	2,023	250	27	118	0	3,320
2001	902	1,976	242	28	128	0	3,275
2002	898	2,045	225	29	123	0	3,320
2003	915	2,079	225	29	124	1	3,373
2004	939	2,105	229	29	125	1	3,429
2005	964	2,124	236	29	127	2	3,483
2006	989	2,144	242	29	129	3	3,536
2007	1,007	2,161	245	29	131	4	3,577
2008	1,029	2,179	247	29	132	5	3,621
2009	1,046	2,192	248	29	134	6	3,656
2010	1,065	2,208	249	29	136	7	3,695
2011	1,083	2,222	252	29	138	10	3,734
2012	1,098	2,238	252	29	140	12	3,770
2013	1,113	2,209	252	29	142	14	3,760

**Annual Growth Rates (%)**

1980-1990	3.4	3.0	-1.2	10.6	1.5		2.2
1990-2000	0.5	3.6	-7.4	-2.2	1.8		1.2
2000-2001	-0.1	-2.3	-3.3	4.0	8.5		-1.4
2001-2006	1.9	1.6	0.0	1.1	0.2		1.5
2006-2013	1.7	0.4	0.6	0.0	1.4	25.1	0.9
2003-2013	2.0	0.6	1.2	0.0	1.4	34.9	1.1

California Energy Demand 2003 - Baseline forecast for the IEPR

Historic Data through 2001

Includes private supply (self-generation)

**TABLE A-7**  
**Staff's Outlook for the Other Area**  
**Electricity Consumption by Sector (GWh)**

Year	Residential	Commercial	Industrial	Agricultural	Other	Electric Vehicles	Total Consumption
1980	1,253	782	256	273	113	0	2,677
1981	1,282	825	250	297	128	0	2,781
1982	1,253	815	194	270	127	0	2,660
1983	1,221	792	171	276	135	0	2,595
1984	1,257	818	210	296	141	0	2,722
1985	1,235	840	202	333	159	0	2,770
1986	1,218	863	220	289	168	0	2,758
1987	1,272	895	190	307	210	0	2,872
1988	1,349	937	215	318	237	0	3,055
1989	1,418	965	219	305	298	0	3,205
1990	1,414	977	203	383	333	0	3,310
1991	1,443	1,002	196	332	350	0	3,323
1992	1,526	1,087	210	342	349	0	3,513
1993	1,545	1,128	225	317	387	0	3,602
1994	1,618	1,201	212	320	407	0	3,758
1995	1,606	1,221	217	349	426	0	3,819
1996	1,772	1,217	233	362	400	0	3,983
1997	1,721	1,264	232	364	391	0	3,972
1998	1,685	1,294	225	363	344	0	3,911
1999	1,802	1,362	224	381	239	0	4,009
2000	1,917	1,442	238	400	231	0	4,227
2001	1,909	1,423	217	425	256	0	4,230
2002	1,944	1,393	202	400	273	0	4,211
2003	1,977	1,418	194	409	284	0	4,282
2004	2,011	1,471	193	417	312	0	4,403
2005	2,045	1,503	195	424	319	0	4,487
2006	2,080	1,536	197	431	355	0	4,600
2007	2,116	1,562	199	438	342	0	4,657
2008	2,152	1,602	198	445	360	0	4,757
2009	2,189	1,628	198	452	379	0	4,846
2010	2,226	1,663	196	459	456	0	5,001
2011	2,264	1,692	196	466	507	0	5,125
2012	2,303	1,723	194	473	593	0	5,286
2013	2,342	1,750	193	479	689	0	5,453

**Annual Growth Rates (%)**

1980-1990	1.2	2.2	-2.3	3.5	11.4	2.1
1990-2000	3.1	4.0	1.6	0.4	-3.6	2.5
2000-2001	-0.4	-1.3	-8.6	6.1	10.8	0.1
2001-2006	1.7	1.5	-1.9	0.3	6.8	1.7
2006-2013	1.7	1.9	-0.3	1.5	9.9	2.5
2003-2013	1.7	2.1	0.0	1.6	9.3	2.4

California Energy Demand 2003 - Baseline forecast for the IEPR

Historic Data through 2001

Includes private supply (self-generation)

**TABLE A-8**  
**Staff's Outlook for the DWR Area**  
**Electricity Consumption by Sector (GWh)**

Year	Residential	Commercial	Industrial	Agricultural	Other	Electric Vehicles	Total Consumption
1980	0	0	0	3,354	0	0	3,354
1981	0	0	0	5,264	0	0	5,264
1982	0	0	0	5,192	0	0	5,192
1983	0	0	0	2,497	0	0	2,497
1984	0	0	0	3,349	0	0	3,349
1985	0	0	0	5,410	0	0	5,410
1986	0	0	0	5,031	0	0	5,031
1987	0	0	0	4,734	0	0	4,734
1988	0	0	0	5,928	0	0	5,928
1989	0	0	0	7,413	0	0	7,413
1990	0	0	0	8,171	0	0	8,171
1991	0	0	0	4,400	0	0	4,400
1992	0	0	0	4,088	0	0	4,088
1993	0	0	0	4,372	0	0	4,372
1994	0	0	0	4,946	0	0	4,946
1995	0	0	0	3,562	0	0	3,562
1996	0	0	0	5,146	0	0	5,146
1997	0	0	0	5,504	0	0	5,504
1998	0	0	0	3,421	0	0	3,421
1999	0	0	0	5,490	0	0	5,490
2000	0	0	0	5,490	0	0	5,490
2001	0	0	0	6,349	0	0	6,349
2002	0	0	0	6,349	0	0	6,349
2003	0	0	0	6,349	0	0	6,349
2004	0	0	0	6,349	0	0	6,349
2005	0	0	0	6,349	0	0	6,349
2006	0	0	0	6,349	0	0	6,349
2007	0	0	0	6,349	0	0	6,349
2008	0	0	0	6,349	0	0	6,349
2009	0	0	0	6,349	0	0	6,349
2010	0	0	0	6,349	0	0	6,349
2011	0	0	0	6,349	0	0	6,349
2012	0	0	0	6,349	0	0	6,349
2013	0	0	0	6,349	0	0	6,349

**Annual Growth Rates (%)**

1980-1990	9.3	9.3
1990-2000	-3.9	-3.9
2000-2001	15.6	15.6
2001-2006	0.0	0.0
2006-2013	0.0	0.0
2003-2013	0.0	0.0

California Energy Demand 2003 - Baseline forecast for the IEPR

Historic Data through 2001

Includes private supply (self-generation)

**TABLE A-9**  
**Staff's Outlook for California**  
**Electricity Consumption by Sector (GWh)**

	Residential	Commercial	Industrial	Agricultural	Other	Electric Vehicles	Total Consumption
1980	52,086	47,929	44,393	13,301	9,269	0	166,978
1981	53,499	50,189	44,334	16,130	9,502	0	173,654
1982	52,577	50,016	42,464	14,369	10,058	0	169,483
1983	54,580	52,135	44,107	11,499	10,457	0	172,778
1984	57,566	55,487	46,402	15,122	10,985	0	185,562
1985	58,530	57,476	47,697	17,236	11,581	0	192,521
1986	58,454	60,115	47,671	15,738	11,175	0	193,153
1987	61,269	63,892	49,079	16,425	12,214	0	202,880
1988	64,035	66,748	51,537	18,096	12,622	0	213,038
1989	65,318	69,979	52,133	19,127	13,231	0	219,788
1990	67,669	73,486	52,465	20,849	13,570	0	228,039
1991	67,144	73,379	51,526	16,345	13,867	0	222,260
1992	69,227	76,696	51,378	15,483	14,204	0	226,988
1993	68,426	77,776	51,088	15,918	14,415	0	227,624
1994	69,781	77,609	50,622	16,957	15,128	0	230,097
1995	69,767	79,366	51,954	14,321	15,583	0	230,990
1996	72,166	81,743	53,677	16,898	15,152	0	239,636
1997	73,549	85,776	55,188	17,733	15,231	0	247,476
1998	75,389	84,859	55,154	14,624	14,658	0	244,685
1999	76,484	88,554	56,687	17,694	14,265	0	253,684
2000	80,615	92,357	58,221	17,652	14,648	0	263,493
2001	76,233	89,128	54,923	18,659	14,672	0	253,614
2002	77,540	91,453	51,087	19,030	14,609	10	253,729
2003	79,885	93,440	50,623	19,266	14,760	30	258,003
2004	82,923	96,715	51,093	19,793	15,002	60	265,586
2005	86,018	99,038	52,896	19,985	15,205	90	273,232
2006	89,133	101,097	54,176	20,184	15,473	125	280,188
2007	91,637	102,659	54,903	20,363	15,678	160	285,400
2008	94,763	104,787	55,587	20,537	15,906	200	291,780
2009	97,297	106,356	55,958	20,711	16,143	240	296,705
2010	100,058	108,150	56,364	20,891	16,428	300	302,191
2011	102,627	109,957	57,052	21,053	16,716	400	307,805
2012	104,955	112,035	57,411	21,221	16,992	500	313,114
2013	107,252	113,656	57,736	21,333	17,272	600	317,849

**Annual Growth Rates (%)**

1980-1990	2.7	4.4	1.7	4.6	3.9	3.2	
1990-2000	1.8	2.3	1.0	-1.7	0.8	1.5	
2000-2001	-5.4	-3.5	-5.7	5.7	0.2	-3.7	
2001-2006	3.2	2.6	-0.3	1.6	1.1	2.0	
2006-2013	2.7	1.7	0.9	0.8	1.6	25.1	1.8
2003-2013	3.0	2.0	1.3	1.0	1.6	34.9	2.1

California Energy Demand 2003 - Baseline forecast for the IEPR  
Historic Data through 2001

Includes private supply (self-generation)

**TABLE A-10**  
**Staff's Outlook for California**  
**Electricity Consumption by Utility (GWh)**

	PG&E	SMUD	SCE	LADWP	SDG&E	BGP	OTH	DWR	TOTAL
1980	66,197	5,352	59,624	17,669	9,729	2,374	2,677	3,354	166,978
1981	67,653	5,694	61,594	18,340	9,875	2,452	2,781	5,264	173,654
1982	66,043	5,681	59,501	18,184	9,823	2,399	2,660	5,192	169,483
1983	68,497	5,954	62,006	18,722	10,073	2,433	2,595	2,497	172,778
1984	73,341	6,360	66,608	19,777	10,760	2,644	2,722	3,349	185,562
1985	75,617	6,882	68,203	19,760	11,180	2,699	2,770	5,410	192,521
1986	74,394	7,015	69,496	20,094	11,670	2,695	2,758	5,031	193,153
1987	78,962	7,420	72,999	20,772	12,367	2,754	2,872	4,734	202,880
1988	82,141	7,678	76,698	21,439	13,237	2,861	3,055	5,928	213,038
1989	84,529	7,927	78,417	21,555	13,929	2,813	3,205	7,413	219,788
1990	86,806	8,358	81,673	21,971	14,798	2,951	3,310	8,171	228,039
1991	86,929	8,350	80,223	21,635	14,642	2,759	3,323	4,400	222,260
1992	88,326	8,497	82,041	22,052	15,540	2,931	3,513	4,088	226,988
1993	89,239	8,435	81,133	22,396	15,451	2,996	3,602	4,372	227,624
1994	89,582	8,418	82,800	21,805	15,791	2,999	3,758	4,946	230,097
1995	90,763	8,458	82,855	22,526	15,923	3,084	3,819	3,562	230,990
1996	93,464	8,805	85,728	22,758	16,600	3,152	3,983	5,146	239,636
1997	97,078	9,006	88,382	23,166	17,132	3,236	3,972	5,504	247,476
1998	95,682	9,123	88,434	23,004	17,812	3,298	3,911	3,421	244,685
1999	99,205	9,326	91,013	23,058	18,342	3,240	4,009	5,490	253,684
2000	101,980	9,491	96,496	23,803	18,684	3,320	4,227	5,490	263,493
2001	98,748	9,334	90,506	23,265	17,908	3,275	4,230	6,349	253,614
2002	97,888	9,529	90,513	23,314	18,604	3,320	4,211	6,349	253,729
2003	99,378	9,805	92,010	23,785	19,022	3,373	4,282	6,349	258,003
2004	102,504	10,033	95,030	24,255	19,582	3,429	4,403	6,349	265,586
2005	105,434	10,245	98,300	24,768	20,166	3,483	4,487	6,349	273,232
2006	108,133	10,437	101,173	25,202	20,758	3,536	4,600	6,349	280,188
2007	110,135	10,602	103,336	25,473	21,271	3,577	4,657	6,349	285,400
2008	112,784	10,789	105,759	25,787	21,934	3,621	4,757	6,349	291,780
2009	114,668	10,955	107,764	26,014	22,454	3,656	4,846	6,349	296,705
2010	116,851	11,130	109,902	26,294	22,970	3,695	5,001	6,349	302,191
2011	118,901	11,298	112,267	26,608	23,522	3,734	5,125	6,349	307,805
2012	120,774	11,470	114,527	26,846	24,092	3,770	5,286	6,349	313,114
2013	122,436	11,647	116,444	27,179	24,580	3,760	5,453	6,349	317,849

**Annual Growth Rates (%)**

1980-1990	2.7	4.6	3.2	2.2	4.3	2.2	2.1	9.3	3.2
1990-2000	1.6	1.3	1.7	0.8	2.4	1.2	2.5	-3.9	1.5
2000-2001	-3.2	-1.7	-6.2	-2.3	-4.2	-1.4	0.1	15.6	-3.7
2001-2006	1.8	2.3	2.3	1.6	3.0	1.5	1.7	0.0	2.0
2006-2013	1.8	1.6	2.0	1.1	2.4	0.9	2.5	0.0	1.8
2003-2013	2.2	1.8	2.5	1.4	2.7	1.2	2.4	0.0	2.2

Historic Data through 2001

California Energy Demand 2003 - Baseline forecast for the IEPR

## **Appendix B: Net Energy For Load**

This appendix provides recorded and forecast net energy for load by utility.

**TABLE B-1**  
**Staff's Outlook for the PG&E Area**  
**Net Energy for Load (GWh)**

Year	Total Consumption	Net Losses	Gross Generation	Private Supply	Net Energy for Load
1980	66,197	6,294	72,492	631	71,861
1981	67,653	6,433	74,087	638	73,449
1982	66,043	6,270	72,313	728	71,585
1983	68,497	6,485	74,982	948	74,034
1984	73,341	6,957	80,298	874	79,424
1985	75,617	7,161	82,778	1,024	81,754
1986	74,394	6,980	81,374	1,686	79,688
1987	78,962	7,317	86,279	2,742	83,537
1988	82,141	7,559	89,700	3,402	86,298
1989	84,529	7,746	92,275	3,843	88,432
1990	86,806	7,950	94,757	3,992	90,764
1991	86,929	7,947	94,877	4,145	90,732
1992	88,326	8,077	96,403	4,188	92,215
1993	89,239	8,067	97,307	5,203	92,104
1994	89,582	8,072	97,654	5,498	92,156
1995	90,763	8,185	98,948	5,498	93,450
1996	93,464	8,354	101,817	6,445	95,373
1997	97,078	8,695	105,772	6,510	99,262
1998	95,682	8,644	104,327	5,639	98,688
1999	99,205	9,002	108,207	5,433	102,775
2000	101,980	9,295	111,275	5,158	106,117
2001	98,748	8,981	107,728	5,196	102,532
2002	97,888	8,881	106,769	5,375	101,394
2003	99,378	9,012	108,389	5,506	102,883
2004	102,504	9,306	111,810	5,561	106,249
2005	105,434	9,582	115,017	5,617	109,400
2006	108,133	9,836	117,969	5,673	112,296
2007	110,135	10,023	120,158	5,730	114,428
2008	112,784	10,272	123,056	5,787	117,269
2009	114,668	10,447	125,115	5,845	119,270
2010	116,851	10,651	127,502	5,903	121,599
2011	118,901	10,842	129,743	5,962	123,780
2012	120,774	11,016	131,791	6,022	125,769
2013	122,436	11,170	133,606	6,082	127,524

**Annual Growth Rates (%)**

1980-1990	2.7	2.4	2.7	20.3	2.4
1990-2000	1.6	1.6	1.6	2.6	1.6
2000-2001	-3.2	-3.4	-3.2	0.8	-3.4
2001-2006	1.8	1.8	1.8	1.8	1.8
2006-2013	1.8	1.8	1.8	1.0	1.8
2003-2013	2.1	2.2	2.1	1.0	2.2

California Energy Demand 2003 - Baseline forecast for the IEPR      30-Jan-03  
 Historic Data through 2001

**TABLE B-2**  
**Staff's Outlook for the SMUD Area**  
**Net Energy for Load (GWh)**

Year	Total Consumption	Net Losses	Gross Generation	Private Supply	Net Energy for Load
1980	5,352	343	5,695	0	5,695
1981	5,694	364	6,059	0	6,059
1982	5,681	364	6,045	0	6,045
1983	5,954	381	6,335	0	6,335
1984	6,360	407	6,767	0	6,767
1985	6,882	440	7,322	0	7,322
1986	7,015	449	7,464	0	7,464
1987	7,420	475	7,895	0	7,895
1988	7,678	491	8,170	0	8,170
1989	7,927	507	8,435	0	8,435
1990	8,358	535	8,893	0	8,893
1991	8,350	534	8,885	0	8,885
1992	8,497	544	9,041	0	9,041
1993	8,435	540	8,974	0	8,974
1994	8,418	539	8,957	0	8,957
1995	8,458	541	8,999	0	8,999
1996	8,805	564	9,369	0	9,369
1997	9,006	576	9,583	0	9,583
1998	9,123	584	9,707	0	9,707
1999	9,326	597	9,923	0	9,923
2000	9,491	607	10,098	0	10,098
2001	9,334	597	9,931	0	9,931
2002	9,529	610	10,139	0	10,139
2003	9,805	628	10,433	0	10,433
2004	10,033	642	10,675	0	10,675
2005	10,245	656	10,901	0	10,901
2006	10,437	668	11,105	0	11,105
2007	10,602	679	11,281	0	11,281
2008	10,789	690	11,479	0	11,479
2009	10,955	701	11,656	0	11,656
2010	11,130	712	11,842	0	11,842
2011	11,298	723	12,022	0	12,022
2012	11,470	734	12,204	0	12,204
2013	11,647	745	12,393	0	12,393

**Annual Growth Rates (%)**

1980-1990	4.6	4.6	4.6	4.6
1990-2000	1.3	1.3	1.3	1.3
2000-2001	-1.7	-1.7	-1.7	-1.7
2001-2006	2.3	2.3	2.3	2.3
2006-2013	1.6	1.6	1.6	1.6
2003-2013	1.7	1.7	1.7	1.7

California Energy Demand 2003 - Baseline forecast for the IEPR      30-Jan-03  
 Historic Data through 2001

**TABLE B-3**  
**Staff's Outlook for the SCE Area**  
**Net Energy for Load (GWh)**

Year	Total Consumption	Net Losses	Gross Generation	Private Supply	Net Energy for Load
1980	59,624	4,035	63,659	289	63,370
1981	61,594	4,168	65,763	296	65,467
1982	59,501	4,013	63,514	492	63,022
1983	62,006	4,154	66,161	914	65,247
1984	66,608	4,454	71,063	1,103	69,960
1985	68,203	4,550	72,753	1,286	71,467
1986	69,496	4,629	74,124	1,428	72,696
1987	72,999	4,842	77,841	1,790	76,051
1988	76,698	5,010	81,709	3,019	78,690
1989	78,417	5,115	83,532	3,199	80,333
1990	81,673	5,329	87,002	3,308	83,694
1991	80,223	5,226	85,449	3,363	82,086
1992	82,041	5,347	87,388	3,408	83,979
1993	81,133	5,266	86,399	3,689	82,711
1994	82,800	5,377	88,176	3,730	84,446
1995	82,855	5,380	88,235	3,730	84,505
1996	85,728	5,562	91,290	3,933	87,357
1997	88,382	5,736	94,119	4,026	90,092
1998	88,434	5,742	94,177	3,987	90,190
1999	91,013	5,915	96,928	4,023	92,904
2000	96,496	6,293	102,789	3,954	98,835
2001	90,506	5,922	96,428	3,422	93,006
2002	90,513	5,860	96,373	4,344	92,029
2003	92,010	5,953	97,963	4,459	93,505
2004	95,030	6,156	101,186	4,503	96,683
2005	98,300	6,375	104,675	4,548	100,127
2006	101,173	6,567	107,740	4,594	103,147
2007	103,336	6,711	110,047	4,640	105,407
2008	105,759	6,873	112,632	4,686	107,946
2009	107,764	7,006	114,770	4,733	110,037
2010	109,902	7,148	117,050	4,780	112,270
2011	112,267	7,306	119,573	4,828	114,745
2012	114,527	7,456	121,984	4,876	117,107
2013	116,444	7,583	124,028	4,925	119,103

**Annual Growth Rates (%)**

1980-1990	3.2	2.8	3.2	27.6	2.8
1990-2000	1.7	1.7	1.7	1.8	1.7
2000-2001	-6.2	-5.9	-6.2	-13.4	-5.9
2001-2006	2.3	2.1	2.2	6.1	2.1
2006-2013	2.0	2.1	2.0	1.0	2.1
2003-2013	2.4	2.4	2.4	1.0	2.4

California Energy Demand 2003 - Baseline forecast for the IEPR      30-Jan-03  
 Historic Data through 2001

**TABLE B-4**  
**Staff's Outlook for the LADWP Area**  
**Net Energy for Load (GWh)**

Year	Total Consumption	Net Losses	Gross Generation	Private Supply	Net Energy for Load
1980	17,669	2,385	20,055	0	20,055
1981	18,340	2,476	20,816	0	20,816
1982	18,184	2,455	20,639	0	20,639
1983	18,722	2,496	21,219	230	20,989
1984	19,777	2,624	22,401	339	22,062
1985	19,760	2,625	22,385	317	22,068
1986	20,094	2,656	22,749	423	22,326
1987	20,772	2,738	23,510	488	23,022
1988	21,439	2,797	24,236	720	23,516
1989	21,555	2,787	24,341	913	23,428
1990	21,971	2,829	24,800	1,018	23,782
1991	21,635	2,762	24,396	1,178	23,218
1992	22,052	2,828	24,880	1,107	23,773
1993	22,396	2,870	25,266	1,137	24,129
1994	21,805	2,742	24,547	1,497	23,050
1995	22,526	2,827	25,352	1,587	23,765
1996	22,758	2,866	25,623	1,530	24,093
1997	23,166	2,917	26,083	1,561	24,522
1998	23,004	2,891	25,894	1,592	24,302
1999	23,058	2,894	25,952	1,624	24,328
2000	23,803	2,990	26,793	1,657	25,136
2001	23,265	2,913	26,177	1,690	24,487
2002	23,314	2,915	26,228	1,724	24,504
2003	23,785	2,978	26,763	1,724	25,039
2004	24,255	3,042	27,297	1,724	25,573
2005	24,768	3,111	27,879	1,724	26,155
2006	25,202	3,170	28,371	1,724	26,647
2007	25,473	3,206	28,680	1,724	26,956
2008	25,787	3,248	29,035	1,724	27,311
2009	26,014	3,279	29,293	1,724	27,569
2010	26,294	3,317	29,610	1,724	27,886
2011	26,608	3,359	29,967	1,724	28,243
2012	26,846	3,391	30,238	1,724	28,514
2013	27,179	3,436	30,616	1,724	28,892

**Annual Growth Rates (%)**

1980-1990	2.2	1.7	2.1	1.7
1990-2000	0.8	0.6	0.8	0.6
2000-2001	-2.3	-2.6	-2.3	-2.6
2001-2006	1.6	1.7	1.6	1.7
2006-2013	1.1	1.2	1.1	1.2
2003-2013	1.3	1.4	1.4	1.4

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**TABLE B-5**  
**Staff's Outlook for the SDG&E Area**  
**Net Energy for Load (GWh)**

Year	Total Consumption	Net Losses	Gross Generation	Private Supply	Net Energy for Load
1980	9,729	690	10,419	0	10,419
1981	9,875	700	10,575	0	10,575
1982	9,823	696	10,519	11	10,508
1983	10,073	711	10,784	50	10,734
1984	10,760	753	11,512	144	11,368
1985	11,180	775	11,955	250	11,705
1986	11,670	806	12,476	307	12,169
1987	12,367	845	13,212	447	12,765
1988	13,237	901	14,139	524	13,615
1989	13,929	952	14,881	502	14,379
1990	14,798	1,016	15,814	466	15,348
1991	14,642	1,005	15,646	470	15,176
1992	15,540	1,070	16,610	446	16,164
1993	15,451	1,066	16,517	415	16,102
1994	15,791	1,090	16,881	410	16,471
1995	15,923	1,101	17,024	400	16,624
1996	16,600	1,138	17,738	555	17,183
1997	17,132	1,187	18,319	384	17,935
1998	17,812	1,236	19,047	381	18,667
1999	18,342	1,273	19,616	381	19,234
2000	18,684	1,299	19,983	367	19,617
2001	17,908	1,244	19,152	358	18,794
2002	18,604	1,280	19,884	557	19,327
2003	19,022	1,303	20,325	648	19,677
2004	19,582	1,342	20,924	654	20,270
2005	20,166	1,383	21,548	661	20,887
2006	20,758	1,424	22,183	668	21,515
2007	21,271	1,460	22,731	674	22,057
2008	21,934	1,507	23,440	681	22,760
2009	22,454	1,543	23,998	688	23,310
2010	22,970	1,579	24,549	695	23,854
2011	23,522	1,618	25,140	702	24,439
2012	24,092	1,658	25,750	709	25,041
2013	24,580	1,692	26,272	716	25,556

**Annual Growth Rates (%)**

1980-1990	4.3	3.9	4.3	3.9
1990-2000	2.4	2.5	2.4	-2.4
2000-2001	-4.2	-4.2	-4.2	-2.3
2001-2006	3.0	2.7	3.0	13.3
2006-2013	2.4	2.5	2.4	1.0
2003-2013	2.6	2.6	2.6	1.0
				2.6

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**TABLE B-6**  
**Staff's Outlook for the BGP Area**  
**Net Energy for Load (GWh)**

Year	Total Consumption	Net Losses	Gross Generation	Private Supply	Net Energy for Load
1980	2,374	152	2,526	0	2,526
1981	2,452	157	2,609	0	2,609
1982	2,399	154	2,552	0	2,552
1983	2,433	156	2,588	0	2,588
1984	2,644	169	2,813	0	2,813
1985	2,699	173	2,872	0	2,872
1986	2,695	172	2,868	0	2,868
1987	2,754	176	2,930	0	2,930
1988	2,861	183	3,044	0	3,044
1989	2,813	180	2,993	0	2,993
1990	2,951	189	3,140	0	3,140
1991	2,759	177	2,936	0	2,936
1992	2,931	188	3,118	0	3,118
1993	2,996	192	3,188	0	3,188
1994	2,999	192	3,190	0	3,190
1995	3,084	197	3,282	0	3,282
1996	3,152	202	3,353	0	3,353
1997	3,236	207	3,443	0	3,443
1998	3,298	211	3,509	0	3,509
1999	3,240	207	3,447	0	3,447
2000	3,320	212	3,533	0	3,533
2001	3,275	210	3,485	0	3,485
2002	3,320	212	3,533	0	3,533
2003	3,373	216	3,588	0	3,588
2004	3,429	219	3,648	0	3,648
2005	3,483	223	3,706	0	3,706
2006	3,536	226	3,762	0	3,762
2007	3,577	229	3,806	0	3,806
2008	3,621	232	3,853	0	3,853
2009	3,656	234	3,890	0	3,890
2010	3,695	236	3,931	0	3,931
2011	3,734	239	3,973	0	3,973
2012	3,770	241	4,011	0	4,011
2013	3,760	241	4,001	0	4,001

**Annual Growth Rates (%)**

1980-1990	2.2	2.2	2.2	2.2
1990-2000	1.2	1.2	1.2	1.2
2000-2001	-1.4	-1.4	-1.4	-1.4
2001-2006	1.5	1.5	1.5	1.5
2006-2013	0.9	0.9	0.9	0.9
2003-2013	1.1	1.1	1.1	1.1

California Energy Demand 2003 - Baseline forecast for the IEPR      30-Jan-03  
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**TABLE B-7**  
**Staff's Outlook for the Other Area**  
**Net Energy for Load (GWh)**

Year	Total Consumption	Net Losses	Gross Generation	Private Supply	Net Energy for Load
1980	8,406	1,076	9,482	0	9,482
1981	10,497	1,344	11,841	0	11,841
1982	10,251	1,312	11,563	0	11,563
1983	7,525	963	8,488	0	8,488
1984	8,716	1,116	9,831	0	9,831
1985	10,879	1,392	12,271	0	12,271
1986	10,484	1,342	11,826	0	11,826
1987	10,360	1,326	11,686	0	11,686
1988	11,845	1,516	13,361	0	13,361
1989	13,431	1,719	15,150	0	15,150
1990	14,432	1,847	16,280	0	16,280
1991	10,482	1,342	11,823	0	11,823
1992	10,532	1,348	11,880	0	11,880
1993	10,970	1,404	12,374	0	12,374
1994	11,702	1,498	13,199	0	13,199
1995	10,466	1,340	11,806	0	11,806
1996	12,281	1,572	13,853	0	13,853
1997	12,711	1,627	14,338	0	14,338
1998	10,630	1,361	11,990	0	11,990
1999	12,739	1,631	14,369	0	14,369
2000	13,038	1,669	14,706	0	14,706
2001	13,854	1,773	15,628	0	15,628
2002	13,881	1,777	15,657	0	15,657
2003	14,003	1,792	15,796	0	15,796
2004	14,182	1,815	15,997	0	15,997
2005	14,319	1,833	16,152	0	16,152
2006	14,485	1,854	16,339	0	16,339
2007	14,583	1,867	16,450	0	16,450
2008	14,728	1,885	16,613	0	16,613
2009	14,851	1,901	16,752	0	16,752
2010	15,045	1,926	16,970	0	16,970
2011	15,208	1,947	17,155	0	17,155
2012	15,405	1,972	17,376	0	17,376
2013	15,562	1,992	17,554	0	17,554

**Annual Growth Rates (%)**

1980-1990	5.6	5.6	5.6	5.6
1990-2000	-1.0	-1.0	-1.0	-1.0
2000-2001	6.3	6.3	6.3	6.3
2001-2006	0.9	0.9	0.9	0.9
2006-2013	1.0	1.0	1.0	1.0
2003-2013	1.1	1.1	1.1	1.1

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**TABLE B-8**  
**Staff's Outlook for the DWR Area**  
**Net Energy for Load (GWh)**

Year	Total Consumption	Net Losses	Gross Generation	Private Supply	Net Energy for Load
1980	3,354	127	3,481	0	3,481
1981	5,264	200	5,464	0	5,464
1982	5,192	197	5,389	0	5,389
1983	2,497	95	2,592	0	2,592
1984	3,349	127	3,476	0	3,476
1985	5,410	206	5,616	0	5,616
1986	5,031	191	5,222	0	5,222
1987	4,734	180	4,913	0	4,913
1988	5,928	225	6,154	0	6,154
1989	7,413	282	7,694	0	7,694
1990	8,171	311	8,482	0	8,482
1991	4,400	167	4,567	0	4,567
1992	4,088	155	4,243	0	4,243
1993	4,372	166	4,538	0	4,538
1994	4,946	188	5,133	0	5,133
1995	3,562	135	3,698	0	3,698
1996	5,146	196	5,342	0	5,342
1997	5,504	209	5,713	0	5,713
1998	3,421	130	3,551	0	3,551
1999	5,490	209	5,699	0	5,699
2000	5,490	209	5,699	0	5,699
2001	6,349	241	6,590	0	6,590
2002	6,349	241	6,590	0	6,590
2003	6,349	241	6,590	0	6,590
2004	6,349	241	6,590	0	6,590
2005	6,349	241	6,590	0	6,590
2006	6,349	241	6,590	0	6,590
2007	6,349	241	6,590	0	6,590
2008	6,349	241	6,590	0	6,590
2009	6,349	241	6,590	0	6,590
2010	6,349	241	6,590	0	6,590
2011	6,349	241	6,590	0	6,590
2012	6,349	241	6,590	0	6,590
2013	6,349	241	6,590	0	6,590

**Annual Growth Rates (%)**

1980-1990	9.3	9.3	9.3	9.3
1990-2000	-3.9	-3.9	-3.9	-3.9
2000-2001	15.6	15.6	15.6	15.6
2001-2006	0.0	0.0	0.0	0.0
2006-2013	0.0	0.0	0.0	0.0
2003-2013	0.0	0.0	0.0	0.0

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**TABLE B-9**  
**Staff's Outlook for the State**  
**Net Energy for Load (GWh)**

Year	Total Consumption	Net Losses	Gross Generation	Private Supply	Net Energy for Load
1980	172,707	15,102	187,809	920	186,889
1981	181,371	15,843	197,214	934	196,280
1982	177,074	15,460	192,534	1,231	191,303
1983	177,708	15,441	193,149	2,142	191,007
1984	191,555	16,607	208,162	2,460	205,702
1985	200,630	17,322	217,952	2,877	215,075
1986	200,879	17,224	218,104	3,844	214,260
1987	210,367	17,900	228,267	5,467	222,800
1988	221,828	18,683	240,511	7,665	232,846
1989	230,014	19,288	249,302	8,457	240,845
1990	239,161	20,005	259,167	8,784	250,383
1991	229,419	19,160	248,579	9,156	239,423
1992	234,006	19,557	253,563	9,149	244,414
1993	234,991	19,572	254,563	10,444	244,119
1994	238,041	19,697	257,739	11,136	246,603
1995	237,637	19,707	257,344	11,216	246,128
1996	247,934	20,452	268,386	12,462	255,924
1997	256,215	21,155	277,369	12,481	264,888
1998	251,403	20,799	272,202	11,598	260,603
1999	262,413	21,728	284,141	11,461	272,680
2000	272,303	22,574	294,876	11,135	283,741
2001	263,239	21,881	285,120	10,667	274,453
2002	263,398	21,775	285,174	12,000	273,174
2003	267,725	22,123	289,848	12,337	277,511
2004	275,364	22,764	298,128	12,443	285,685
2005	283,064	23,404	306,468	12,550	293,918
2006	290,073	23,987	314,061	12,658	301,402
2007	295,326	24,416	319,742	12,768	306,975
2008	301,750	24,949	326,699	12,878	313,821
2009	306,710	25,353	332,063	12,990	319,073
2010	312,235	25,811	338,046	13,102	324,944
2011	317,888	26,275	344,163	13,216	330,947
2012	323,233	26,710	349,943	13,331	336,612
2013	327,959	27,101	355,060	13,447	341,613

**Annual Growth Rates (%)**

1980-1990	3.3	2.9	3.3	25.3	3.0
1990-2000	1.3	1.2	1.3	2.4	1.3
2000-2001	-3.3	-3.1	-3.3	-4.2	-3.3
2001-2006	2.0	1.9	2.0	3.5	1.9
2006-2013	1.8	1.8	1.8	0.9	1.8
2003-2013	2.1	2.1	2.1	0.9	2.1

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**Staff's Outlook for California  
Net Energy for Load (GWh)**

	PG&E	SMUD	SCE	LADWP	SDG&E	Other	Total State
1980	71,861	5,695	63,370	20,055	10,419	15,490	186,889
1981	73,449	6,059	65,467	20,816	10,575	19,914	196,280
1982	71,585	6,045	63,022	20,639	10,508	19,504	191,303
1983	74,034	6,335	65,247	20,989	10,734	13,669	191,007
1984	79,424	6,767	69,960	22,062	11,368	16,121	205,702
1985	81,754	7,322	71,467	22,068	11,705	20,759	215,075
1986	79,688	7,464	72,696	22,326	12,169	19,916	214,260
1987	83,537	7,895	76,051	23,022	12,765	19,530	222,800
1988	86,298	8,170	78,690	23,516	13,615	22,558	232,846
1989	88,432	8,435	80,333	23,428	14,379	25,838	240,845
1990	90,764	8,893	83,694	23,782	15,348	27,902	250,383
1991	90,732	8,885	82,086	23,218	15,176	19,326	239,423
1992	92,215	9,041	83,979	23,773	16,164	19,242	244,414
1993	92,104	8,974	82,711	24,129	16,102	20,099	244,119
1994	92,156	8,957	84,446	23,050	16,471	21,523	246,603
1995	93,450	8,999	84,505	23,765	16,624	18,785	246,128
1996	95,373	9,369	87,357	24,093	17,183	22,549	255,924
1997	99,262	9,583	90,092	24,522	17,935	23,494	264,888
1998	98,688	9,707	90,190	24,302	18,667	19,050	260,603
1999	102,775	9,923	92,904	24,328	19,234	23,515	272,680
2000	106,117	10,098	98,835	25,136	19,617	23,938	283,741
2001	102,532	9,931	93,006	24,487	18,794	25,703	274,453
2002	101,394	10,139	92,029	24,504	19,327	25,780	273,174
2003	102,883	10,433	93,505	25,039	19,677	25,975	277,511
2004	106,249	10,675	96,683	25,573	20,270	26,236	285,685
2005	109,400	10,901	100,127	26,155	20,887	26,448	293,918
2006	112,296	11,105	103,147	26,647	21,515	26,692	301,402
2007	114,428	11,281	105,407	26,956	22,057	26,846	306,975
2008	117,269	11,479	107,946	27,311	22,760	27,056	313,821
2009	119,270	11,656	110,037	27,569	23,310	27,232	319,073
2010	121,599	11,842	112,270	27,886	23,854	27,492	324,944
2011	123,780	12,022	114,745	28,243	24,439	27,719	330,947
2012	125,769	12,204	117,107	28,514	25,041	27,978	336,612
2013	127,524	12,393	119,103	28,892	25,556	28,145	341,613

**Annual Growth Rates (%)**

1980-1990	2.4	4.6	2.8	1.7	3.9	6.1	3.0
1990-2000	1.6	1.3	1.7	0.6	2.5	-1.5	1.3
2000-2001	-3.4	-1.7	-5.9	-2.6	-4.2	7.4	-3.3
2001-2006	1.8	2.3	2.1	1.7	2.7	0.8	1.9
2006-2013	1.8	1.6	2.1	1.2	2.5	0.8	1.8
2003-2013	2.2	1.7	2.4	1.4	2.6	0.8	2.1

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## **Appendix C: Peak Demand By Sector**

This appendix provides recorded and forecast peak demand by sector and by utility.

**TABLE C-1**  
**Staff's Outlook for the PG&E Area**  
**Peak Demand by Sector (MW)**

Year	Residential	Commercial	Industrial	Agricultural	Other	Electric Vehicles	Total Consumption
1990	6,317	4,819	3,225	1,348	493	0	16,203
1991	6,558	4,530	2,871	1,069	498	0	15,526
1992	5,955	4,889	3,150	1,049	501	0	15,544
1993	5,794	5,323	3,520	1,232	562	0	16,431
1994	6,116	5,060	3,441	1,254	537	0	16,408
1995	6,438	5,533	3,623	1,044	554	0	17,192
1996	6,934	5,823	3,735	1,117	580	0	18,189
1997	6,476	6,191	4,053	1,270	577	0	18,567
1998	7,175	6,458	4,224	1,060	620	0	19,537
1999	7,363	6,330	3,746	1,344	634	0	19,417
2000	7,792	6,343	3,619	1,262	642	0	19,658
2001	7,157	5,971	3,630	1,184	611	0	18,554
2002	7,677	6,503	3,480	1,233	670	0	19,563
2003	7,519	6,334	3,291	1,192	647	0	18,982
2004	7,760	6,581	3,299	1,276	661	1	19,578
2005	8,000	6,728	3,409	1,283	672	1	20,093
2006	8,215	6,888	3,480	1,293	684	2	20,562
2007	8,402	7,001	3,530	1,295	696	2	20,925
2008	8,628	7,173	3,585	1,296	707	3	21,392
2009	8,817	7,280	3,617	1,297	719	4	21,734
2010	9,021	7,425	3,645	1,301	730	5	22,127
2011	9,206	7,541	3,683	1,301	743	6	22,481
2012	9,379	7,666	3,712	1,302	753	8	22,819
2013	9,550	7,765	3,735	1,295	762	9	23,116

**Annual Growth Rates (%)**

1990-2001	1.1	2.0	1.1	-1.2	2.0	1.2
2001-2013	2.4	2.2	0.2	0.7	1.9	1.8

Historic Data through 2002

Includes private supply (self-generation)

**TABLE C-2**  
**Staff's Outlook for the SMUD Area**  
**Peak Demand by Sector (MW)**

Year	Residential	Commercial	Industrial	Agricultural	Other	Electric Vehicles	Total Consumption
1990	1,256	556	88	23	90	0	2,013
1991	1,084	644	138	18	102	0	1,987
1992	1,059	604	141	20	104	0	1,929
1993	1,095	603	148	21	101	0	1,968
1994	1,040	579	144	21	90	0	1,875
1995	1,246	511	125	36	121	0	2,039
1996	1,414	518	112	31	102	0	2,177
1997	1,157	772	172	24	114	0	2,240
1998	1,241	826	185	23	115	0	2,390
1999	1,366	797	215	27	125	0	2,531
2000	1,259	862	203	25	116	0	2,466
2001	1,274	722	169	23	92	0	2,279
2002	1,423	835	165	25	101	0	2,549
2003	1,361	789	152	24	95	0	2,420
2004	1,392	802	154	24	96	0	2,469
2005	1,422	812	159	24	98	1	2,517
2006	1,446	818	162	25	100	1	2,552
2007	1,467	821	167	25	102	1	2,583
2008	1,494	825	171	25	104	1	2,620
2009	1,518	828	176	26	105	2	2,655
2010	1,545	833	178	26	107	2	2,691
2011	1,569	836	182	26	109	3	2,726
2012	1,594	841	185	27	111	3	2,761
2013	1,619	848	188	27	113	4	2,798

**Annual Growth Rates (%)**

1990-2001	0.1	2.4	6.1	-0.2	0.2	1.1
2001-2013	2.0	1.3	0.9	1.4	1.7	1.7

Historic Data through 2002

Includes private supply (self-generation)

**TABLE C-3**  
**Staff's Outlook for the SCE Area**  
**Peak Demand by Sector (MW)**

Year	Residential	Commercial	Industrial	Agricultural	Other	Electric Vehicles	Total Consumption
1990	5,400	6,659	3,403	771	646	0	16,879
1991	4,907	6,372	3,337	745	656	0	16,017
1992	5,632	7,183	3,313	779	678	0	17,585
1993	6,645	5,010	2,877	682	585	0	15,799
1994	7,057	5,848	3,043	755	608	0	17,311
1995	6,913	5,475	3,118	726	628	0	16,860
1996	7,296	5,796	3,071	720	597	0	17,480
1997	7,513	6,282	3,138	710	695	0	18,338
1998	7,821	6,565	3,255	760	702	0	19,104
1999	7,579	5,868	3,366	831	712	0	18,356
2000	6,524	7,381	3,458	847	748	0	18,958
2001	5,600	6,901	3,241	792	693	0	17,227
2002	5,675	7,241	3,025	833	708	0	17,481
2003	6,218	7,721	3,153	835	701	1	18,628
2004	6,424	8,020	3,199	861	710	2	19,216
2005	6,632	8,255	3,322	879	718	3	19,809
2006	6,828	8,425	3,420	896	730	5	20,303
2007	6,991	8,558	3,476	915	740	6	20,686
2008	7,188	8,720	3,520	935	750	7	21,120
2009	7,356	8,862	3,548	954	761	9	21,490
2010	7,536	9,008	3,578	975	771	11	21,880
2011	7,705	9,186	3,629	994	783	15	22,312
2012	7,863	9,403	3,656	1,014	793	19	22,747
2013	8,019	9,553	3,682	1,030	802	22	23,108

**Annual Growth Rates (%)**

1990-2001	0.3	0.3	-0.4	0.2	0.6	0.2
2001-2013	3.0	2.7	1.1	2.2	1.2	2.5

Historic Data through 2002

Includes private supply (self-generation)

**TABLE C-4**  
**Staff's Outlook for the LADWP Area**  
**Peak Demand by Sector (MW)**

Year	Residential	Commercial	Industrial	Agricultural	Other	Electric Vehicles	Total Consumption
1990	1,514	2,231	857	16	302	0	4,920
1991	1,652	2,020	789	16	295	0	4,771
1992	1,554	2,264	814	17	308	0	4,957
1993	1,388	2,055	645	15	274	0	4,378
1994	1,657	2,102	654	16	287	0	4,716
1995	1,472	2,219	676	16	283	0	4,665
1996	1,590	2,158	754	17	295	0	4,814
1997	1,558	2,704	668	17	301	0	5,248
1998	1,490	2,796	661	17	295	0	5,259
1999	1,645	2,305	749	20	348	0	5,067
2000	1,559	2,398	670	19	341	0	4,986
2001	1,332	2,276	619	15	289	0	4,530
2002	1,350	2,389	584	16	286	0	4,624
2003	1,493	2,599	628	17	309	0	5,046
2004	1,525	2,630	633	17	310	1	5,117
2005	1,558	2,654	652	17	311	1	5,193
2006	1,589	2,667	663	17	314	2	5,251
2007	1,610	2,675	664	17	317	3	5,286
2008	1,638	2,684	665	18	319	3	5,326
2009	1,660	2,693	660	18	321	4	5,356
2010	1,684	2,700	661	18	324	5	5,391
2011	1,707	2,709	666	18	327	6	5,433
2012	1,728	2,716	665	18	329	8	5,464
2013	1,749	2,741	665	18	331	9	5,513

**Annual Growth Rates (%)**

1990-2001	-1.2	0.2	-2.9	-0.5	-0.4	-0.7
2001-2013	2.3	1.6	0.6	1.5	1.1	1.7

Historic Data through 2002

Includes private supply (self-generation)

**TABLE C-5**  
**Staff's Outlook for the SDG&E Area**  
**Peak Demand by Sector (MW)**

Year	Residential	Commercial	Industrial	Agricultural	Other	Electric Vehicles	Total Consumption
1990	905	1,318	317	26	213	0	2,780
1991	917	1,322	325	26	238	0	2,828
1992	976	1,499	330	27	244	0	3,076
1993	857	1,306	284	24	226	0	2,697
1994	1,083	1,473	289	26	237	0	3,107
1995	1,083	1,403	299	26	243	0	3,055
1996	1,040	1,467	335	27	235	0	3,105
1997	1,188	1,630	330	31	260	0	3,438
1998	1,351	1,633	391	31	288	0	3,695
1999	1,164	1,470	391	32	278	0	3,335
2000	1,095	1,502	356	31	246	0	3,230
2001	1,018	1,337	309	26	219	0	2,909
2002	1,222	1,550	284	30	240	0	3,325
2003	1,314	1,650	354	32	253	0	3,603
2004	1,359	1,689	360	33	257	0	3,698
2005	1,406	1,725	372	34	261	0	3,798
2006	1,447	1,764	382	35	265	1	3,895
2007	1,485	1,795	392	36	269	1	3,978
2008	1,530	1,842	403	37	273	1	4,086
2009	1,569	1,873	413	37	277	1	4,170
2010	1,609	1,903	420	38	280	1	4,252
2011	1,647	1,939	431	38	283	2	4,341
2012	1,682	1,985	437	39	287	2	4,432
2013	1,718	2,017	444	39	290	3	4,512

**Annual Growth Rates (%)**

1990-2001	1.1	0.1	-0.2	-0.3	0.3	0.4
2001-2013	4.5	3.5	3.1	3.6	2.4	3.7

Historic Data through 2002

Includes private supply (self-generation)

**TABLE C-6**  
**Staff's Outlook for the BGP Area**  
**Peak Demand by Sector (MW)**

Year	Residential	Commercial	Industrial	Agricultural	Other	Electric Vehicles	Total Consumption
1990	301	350	104	3	15	0	773
1991	293	330	79	2	14	0	718
1992	287	390	73	2	14	0	767
1993	261	338	65	2	14	0	679
1994	309	377	59	2	13	0	760
1995	270	403	54	2	14	0	743
1996	289	392	51	2	14	0	749
1997	277	462	50	2	19	0	810
1998	269	505	53	3	18	0	848
1999	259	475	47	3	16	0	800
2000	269	449	45	3	18	0	785
2001	256	422	43	3	19	0	743
2002	272	475	43	3	20	0	813
2003	275	482	43	3	20	0	822
2004	278	487	44	3	20	0	831
2005	282	490	45	3	20	0	840
2006	284	494	46	3	21	0	848
2007	286	497	47	3	21	0	853
2008	289	499	47	3	21	0	859
2009	291	502	47	3	22	0	864
2010	293	504	47	3	22	1	870
2011	295	506	48	3	22	1	875
2012	297	509	48	3	23	1	880
2013	299	501	48	3	23	1	875

**Annual Growth Rates (%)**

1990-2001	-1.4	1.7	-7.7	-0.6	2.0	-0.4
2001-2013	1.3	1.4	0.8	0.6	1.8	1.4

Historic Data through 2002

Includes private supply (self-generation)

**TABLE C-7**  
**Staff's Outlook for the Other Area**  
**Peak Demand by Sector (MW)**

Year	Residential	Commercial	Industrial	Agricultural	Other	Electric Vehicles	Total Consumption
1990							756
1991							759
1992							802
1993							822
1994							858
1995							872
1996							909
1997							907
1998							893
1999							915
2000							965
2001							966
2002							971
2003							990
2004							1,018
2005							1,041
2006							1,068
2007							1,083
2008							1,106
2009							1,129
2010							1,166
2011							1,196
2012							1,236
2013							1,278

**Annual Growth Rates (%)**

1990-2001	2.3
2001-2013	2.4

Historic Data through 2002

Includes private supply (self-generation)

**TABLE C-8**  
**Staff's Outlook for the DWR Area**  
**Peak Demand by Sector (MW)**

Year	Residential	Commercial	Industrial	Agricultural	Other	Electric Vehicles	Total Consumption
1990				227			227
1991				375			375
1992				242			242
1993				208			208
1994				88			88
1995				236			236
1996				398			398
1997				237			237
1998				236			236
1999				236			236
2000				236			236
2001				273			273
2002				273			273
2003				273			273
2004				273			273
2005				273			273
2006				273			273
2007				273			273
2008				273			273
2009				273			273
2010				273			273
2011				273			273
2012				273			273
2013				273			273

**Annual Growth Rates (%)**

1990-2001	1.7	1.7
2001-2013	0.0	0.0

Historic Data through 2002

Includes private supply (self-generation)

**TABLE C-9**  
**Staff's Outlook for the State**  
**Noncoincident Peak Demand by Sector (MW)**

	Residential	Commercial	Industrial	Agricultural	Other	Electric Vehicles	Total Consumption
1990	15,693	15,934	7,994	2,415	2,514	0	44,550
1991	15,411	15,218	7,539	2,250	2,562	0	42,980
1992	15,464	16,827	7,821	2,136	2,653	0	44,902
1993	16,040	14,635	7,538	2,184	2,586	0	42,982
1994	17,260	15,439	7,631	2,161	2,630	0	45,122
1995	17,421	15,543	7,894	2,086	2,716	0	45,662
1996	18,563	16,155	8,058	2,313	2,732	0	47,821
1997	18,170	18,040	8,411	2,290	2,873	0	49,785
1998	19,347	18,783	8,770	2,130	2,931	0	51,961
1999	19,376	17,246	8,515	2,492	3,029	0	50,658
2000	18,497	18,935	8,352	2,422	3,076	0	51,283
2001	16,637	17,629	8,011	2,316	2,889	0	47,482
2002	17,619	18,993	7,581	2,412	2,996	0	49,600
2003	18,179	19,574	7,621	2,375	3,014	1	50,764
2004	18,738	20,209	7,690	2,487	3,072	4	52,200
2005	19,300	20,665	7,959	2,513	3,121	6	53,564
2006	19,810	21,055	8,152	2,542	3,182	11	54,751
2007	20,241	21,346	8,275	2,564	3,227	13	55,666
2008	20,767	21,744	8,390	2,586	3,280	15	56,782
2009	21,211	22,038	8,460	2,608	3,334	20	57,671
2010	21,688	22,373	8,530	2,633	3,400	25	58,649
2011	22,130	22,717	8,639	2,653	3,464	33	59,636
2012	22,543	23,120	8,703	2,675	3,530	41	60,612
2013	22,956	23,425	8,761	2,685	3,598	48	61,472

**Annual Growth Rates (%)**

1990-2001	0.5	0.9	0.0	-0.4	1.3	0.6
2001-2013	2.7	2.4	0.7	1.2	1.8	2.2

Historic Data through 2002

Includes private supply (self-generation)

**TABLE C-10**  
**Staff's Outlook for the State**  
**Noncoincident Peak Demand by Utility (MW)**

Year	PG&E	SMUD	SCE	LADWP	SDG&E	Other	Total
1990	16,203	2,013	16,879	4,920	2,780	1,756	44,550
1991	15,526	1,987	16,017	4,771	2,828	1,851	42,980
1992	15,544	1,929	17,585	4,957	3,076	1,811	44,902
1993	16,431	1,968	15,799	4,378	2,697	1,709	42,982
1994	16,408	1,875	17,311	4,716	3,107	1,706	45,122
1995	17,192	2,039	16,860	4,665	3,055	1,851	45,662
1996	18,189	2,177	17,480	4,814	3,105	2,057	47,821
1997	18,567	2,240	18,338	5,248	3,438	1,954	49,785
1998	19,537	2,390	19,104	5,259	3,695	1,977	51,961
1999	19,417	2,531	18,356	5,067	3,335	1,951	50,658
2000	19,658	2,466	18,958	4,986	3,230	1,986	51,283
2001	18,554	2,279	17,227	4,530	2,909	1,982	47,482
2002	19,563	2,549	17,481	4,624	3,325	2,056	49,600
2003	18,982	2,420	18,628	5,046	3,603	2,085	50,764
2004	19,578	2,469	19,216	5,117	3,698	2,122	52,200
2005	20,093	2,517	19,809	5,193	3,798	2,154	53,564
2006	20,562	2,552	20,303	5,251	3,895	2,188	54,751
2007	20,925	2,583	20,686	5,286	3,978	2,208	55,666
2008	21,392	2,620	21,120	5,326	4,086	2,238	56,782
2009	21,734	2,655	21,490	5,356	4,170	2,266	57,671
2010	22,127	2,691	21,880	5,391	4,252	2,309	58,649
2011	22,481	2,726	22,312	5,433	4,341	2,344	59,636
2012	22,819	2,761	22,747	5,464	4,432	2,388	60,612
2013	23,116	2,798	23,108	5,513	4,512	2,426	61,472

**Annual Growth Rates (%)**

1990-2001	1.2	1.1	0.2	-0.7	0.4	1.1	0.6
2001-2013	1.8	1.7	2.5	1.7	3.7	1.7	2.2

Historic Data through 2002

Includes private supply (self-generation)

## **Appendix D: System Peak Demand**

This appendix provides recorded and forecast system peak demand by utility and by CAISO congestion zones, and includes net energy for load by CAISO congestion zones.

**TABLE D-1**  
**Staff's Outlook for California**  
**Non-coincident Peak Demand (MW)**

	Total End Use Load	Net Losses	Gross Generation	Private Supply	CED 2003 Peak Demand	Load Factor (%)
1990	44,550	3,822	48,372	1,141	47,231	60.5
1991	42,980	3,625	46,605	1,176	45,429	60.2
1992	44,902	3,783	48,685	1,168	47,517	58.7
1993	42,982	3,614	46,596	1,185	45,411	61.4
1994	45,122	3,737	48,858	1,550	47,308	59.5
1995	45,662	3,782	49,443	1,589	47,854	58.7
1996	47,821	4,039	51,860	1,620	50,240	58.2
1997	49,785	4,125	53,910	1,660	52,250	57.9
1998	51,961	4,439	56,400	1,679	54,721	54.4
1999	50,658	4,347	55,005	1,712	53,293	58.4
2000	51,283	4,397	55,679	1,688	53,991	60.0
2001	47,482	4,058	51,540	1,706	49,834	62.9
2002	49,600	4,243	53,843	1,824	52,018	59.9
2003	50,764	4,334	55,098	1,867	53,231	59.5
2004	52,200	4,459	56,659	1,883	54,776	59.5
2005	53,564	4,576	58,140	1,900	56,240	59.7
2006	54,751	4,679	59,430	1,917	57,513	59.8
2007	55,666	4,758	60,424	1,934	58,490	59.9
2008	56,782	4,854	61,637	1,951	59,685	60.0
2009	57,671	4,930	62,601	1,969	60,633	60.1
2010	58,649	5,014	63,663	1,986	61,677	60.1
2011	59,636	5,098	64,734	2,004	62,730	60.2
2012	60,612	5,180	65,793	2,022	63,771	60.3
2013	61,472	5,254	66,726	2,040	64,686	60.3

**Annual Growth Rates (%)**

1990-2000	1.4	1.4	1.4	4.0	1.3
2000-2001	-7.4	-7.7	-7.4	1.1	-7.7
2001-2006	2.9	2.9	2.9	2.4	2.9
2006-2013	1.7	1.7	1.7	0.9	1.7
2003-2013	1.9	1.9	1.9	0.9	2.0

Historic data through 2002

California Energy Demand 2003 - Baseline forecast for the IEPR

30-Jan-03

**TABLE D-2**  
**Staff's Outlook for California**  
**Non-coincident Peak Demand (MW)**

Year	PG&E	SMUD	SCE	LADWP	SDG&E	Other	Total
1990	17,250	2,195	17,647	5,312	2,973	1,854	47,231
1991	16,497	2,166	16,709	5,100	3,001	1,956	45,429
1992	16,533	2,103	18,413	5,279	3,277	1,912	47,517
1993	17,489	2,146	16,475	4,650	2,846	1,805	45,411
1994	17,173	2,044	18,044	4,958	3,288	1,801	47,308
1995	18,016	2,223	17,548	4,863	3,249	1,955	47,854
1996	19,077	2,373	18,207	5,111	3,299	2,173	50,240
1997	19,459	2,442	19,118	5,492	3,675	2,064	52,250
1998	20,509	2,606	19,935	5,630	3,954	2,088	54,721
1999	20,369	2,759	19,122	5,407	3,574	2,061	53,293
2000	20,628	2,688	19,757	5,344	3,476	2,098	53,991
2001	19,413	2,485	17,890	4,805	3,147	2,094	49,834
2002	20,484	2,779	18,105	4,910	3,567	2,173	52,018
2003	19,823	2,639	19,320	5,378	3,868	2,202	53,231
2004	20,467	2,692	19,946	5,457	3,972	2,242	54,776
2005	21,022	2,744	20,577	5,542	4,080	2,276	56,240
2006	21,526	2,782	21,101	5,607	4,185	2,312	57,513
2007	21,914	2,816	21,506	5,646	4,276	2,333	58,490
2008	22,416	2,856	21,965	5,690	4,393	2,364	59,685
2009	22,781	2,895	22,355	5,724	4,484	2,394	60,633
2010	23,201	2,934	22,768	5,762	4,573	2,439	61,677
2011	23,578	2,972	23,224	5,809	4,669	2,477	62,730
2012	23,939	3,010	23,685	5,844	4,769	2,524	63,771
2013	24,253	3,051	24,065	5,898	4,855	2,563	64,686

**Annual Growth Rates (%)**

1990-2000	1.8	2.0	1.1	0.1	1.6	1.2	1.3
2000-2001	-5.9	-7.6	-9.4	-10.1	-9.5	-0.2	-7.7
2001-2006	2.1	2.3	3.4	3.1	5.9	2.0	2.9
2006-2013	1.7	1.3	1.9	0.7	2.1	1.5	1.7
2003-2013	2.0	1.5	2.2	0.9	2.3	1.5	2.0

Historic data through 2002

**TABLE D-3**  
**Staff's Outlook for the State**  
**1 IN 2 Electric Peak Demand by ISO Congestion Zone with Municipal Sales**  
**(MW)**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Growth Rate (%)
PG&E North	17,569	17,779	16,653	17,706	17,081	17,615	18,095	18,540	18,874	19,306	19,621	19,982	20,308	20,618	20,889	2.17
PG&E Sales	14,064	14,225	13,574	14,207	13,741	14,210	14,645	15,016	15,298	15,656	15,928	16,236	16,508	16,768	17,001	2.04
Municipal/Water District Sales	3,505	3,554	3,079	3,499	3,340	3,405	3,450	3,524	3,576	3,651	3,693	3,746	3,800	3,851	3,888	1.96
PG&E San Francisco	921	948	979	885	917	968	992	1,004	1,022	1,045	1,062	1,082	1,099	1,116	1,131	0.49
Dept of Water Resources - North	61	61	70	70	70	70	70	70	70	70	70	70	70	70	0.00	0.00
North of Path 15	18,551	18,788	17,703	18,661	18,067	18,653	19,157	19,614	19,966	20,422	20,753	21,134	21,477	21,805	22,090	2.07
Path 26 Pacific Gas & Electric - South	1,879	1,901	1,781	1,893	1,826	1,883	1,935	1,982	2,018	2,064	2,098	2,137	2,171	2,205	2,233	2.17
Southern California Edison	19,122	19,757	17,890	18,105	19,320	19,946	20,577	21,101	21,506	21,965	22,355	22,768	23,224	23,685	24,065	3.36
SCE Sales	15,253	15,826	15,261	13,959	14,934	15,463	16,006	16,454	16,784	17,164	17,476	17,808	18,182	18,554	18,894	1.52
Municipal/Water District Sales	1,930	1,944	1,773	1,817	1,940	1,999	2,054	2,100	2,138	2,180	2,219	2,258	2,301	2,345	2,379	3.44
Pasadena Water and Power Dept	294	291	275	301	305	308	312	314	316	319	320	322	324	326	324	2.67
San Diego Gas & Electric	3,574	3,476	3,147	3,567	3,868	3,972	4,080	4,185	4,276	4,393	4,484	4,573	4,669	4,769	4,855	5.87
Dept of Water Resources - South	189	189	219	219	219	219	219	219	219	219	219	219	219	219	0.00	0.00
South of Path 15	23,180	23,713	21,531	22,193	23,712	24,445	25,187	25,819	26,317	26,896	27,379	27,882	28,437	28,999	29,464	3.70
Sacramento Municipal Utilities District	2,759	2,688	2,485	2,779	2,639	2,692	2,744	2,816	2,856	2,895	2,934	2,972	3,010	3,051	2.28	
Los Angeles Department of Water and Power	5,407	5,344	4,805	4,910	5,378	5,457	5,542	5,607	5,646	5,690	5,724	5,762	5,809	5,844	5,898	3.13
Burbank Public Service Dept	288	262	248	272	275	281	285	288	281	283	285	287	289	291	294	2.67
Glendale Public Service Dept	279	272	257	281	285	288	291	293	295	298	299	301	303	305	303	2.67
Imperial Irrigation District	728	705	725	750	770	791	812	833	854	875	895	915	936	956	976	2.51
Far North & East Sierra	242	318	299	279	279	288	291	299	294	297	302	321	332	354	378	0.02
Non ISO	9,663	9,589	8,819	9,211	9,625	9,794	9,961	10,097	10,189	10,303	10,402	10,524	10,644	10,762	10,899	2.74
Total ISO	46,369	47,090	43,500	42,747	43,606	44,982	46,279	47,415	48,301	49,382	50,230	51,153	52,086	53,009	53,787	1.74
Total State	53,293	53,991	49,834	52,018	53,231	54,776	56,240	57,513	58,490	59,685	60,633	61,677	62,730	63,771	64,866	2.91
<b>Coincident Demand</b>																
Total ISO Coincident Demand	45,258	45,962	42,458	41,723	42,561	43,905	45,171	46,280	47,144	48,200	49,027	49,928	50,838	51,739	52,499	1.74
Total Statewide Coincident Demand	52,016	52,699	48,640	50,773	51,956	53,464	54,893	56,135	57,089	58,256	59,181	60,200	61,228	62,243	63,137	2.91
California Energy Demand 2003 - Baseline Forecast for the IFRP	30-Jan-03															
Planning Area Totals	20,369	20,628	19,413	20,484	19,823	20,467	21,022	21,526	21,914	22,416	22,781	23,201	23,578	23,939	24,253	2.09
PG&E	2,759	2,688	2,485	2,779	2,639	2,692	2,744	2,782	2,816	2,856	2,895	2,934	2,972	3,010	3,051	2.28
SMUD	19,122	19,757	17,890	18,105	19,320	19,946	20,577	21,101	21,506	21,965	22,355	22,768	23,224	23,685	24,065	2.50
SCE	5,407	5,344	4,910	5,378	5,457	5,542	5,607	5,646	5,690	5,724	5,762	5,809	5,844	5,888	5,933	1.72
LADWP	841	825	781	854	864	874	883	891	897	903	908	914	920	925	920	2.67
BGP	3,574	3,476	3,147	3,567	3,868	3,972	4,080	4,185	4,276	4,393	4,484	4,573	4,669	4,769	4,855	5.87
SDG&E	970	1,023	1,024	1,049	1,079	1,103	1,132	1,148	1,172	1,197	1,236	1,268	1,310	1,354	2.03	2.36
Other	250	289	289	289	289	289	289	289	289	289	289	289	289	289	289	0.00
DWR	53,293	53,991	49,834	52,018	53,231	54,776	56,240	57,513	58,490	59,685	60,633	61,677	62,730	63,771	64,866	2.91
Total																2.20

**TABLE D-4**  
**Staff's Outlook for the State**  
**1 IN 5 Electric Peak Demand by ISO Congestion Zone**  
**(MW)**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Growth Rate (%) 2001-2006/2001-2013
<b>Noncoincident Demand</b>																
PG&E North	18,259	18,474	17,299	18,385	17,729	18,276	18,778	19,246	19,598	20,052	20,384	20,752	21,090	21,412	21,693	2.16
PG&E San Francisco	932	1,001	912	952	1,014	1,034	1,040	1,053	1,072	1,084	1,112	1,130	1,147	1,162	0.77	1.25
Dept of Water Resources - North	61	61	70	70	70	70	70	70	70	70	70	70	70	70	0.00	0.00
North of Path 15	19,251	19,497	18,370	19,368	18,751	19,360	19,883	20,357	20,722	21,194	21,538	21,934	22,290	22,630	22,926	2.07
Path 26 - Pacific Gas & Electric - South	1,952	1,975	1,850	1,966	1,896	1,954	2,008	2,058	2,095	2,144	2,180	2,219	2,255	2,289	2,319	2.16
Southern California Edison	19,753	20,409	18,480	18,703	19,958	20,605	21,256	21,797	22,215	22,690	23,093	23,519	23,901	24,466	24,859	3.36
Pasadena Water and Power Dept	308	305	289	316	320	323	327	330	332	334	336	338	340	342	340	2.67
San Diego Gas & Electric	3,569	3,500	3,169	3,592	3,895	3,999	4,108	4,214	4,306	4,424	4,516	4,605	4,702	4,803	4,889	5.87
Dept of Water Resources - South	189	189	219	219	219	219	219	219	219	219	219	219	219	219	219	0.00
South of Path 15	23,850	24,404	22,157	22,830	24,391	25,146	25,910	26,560	27,072	27,667	28,164	28,681	29,252	29,830	30,308	3.69
Sacramento Municipal Utilities District	2,864	2,790	2,580	2,885	2,739	2,794	2,848	2,888	2,923	2,965	3,005	3,045	3,085	3,124	3,167	2.28
Los Angeles Department of Water and Power	5,672	5,606	5,040	5,151	5,642	5,725	5,814	5,882	5,922	5,969	6,004	6,045	6,094	6,130	6,187	1.72
Burbank Public Service Dept	281	275	260	285	288	291	295	297	299	301	303	305	307	308	307	1.37
Glendale Public Service Dept	293	285	270	295	299	302	305	308	310	312	314	316	318	320	318	2.67
Imperial Irrigation District	749	725	746	772	792	814	836	857	879	900	921	942	963	984	1,004	2.51
Far North & East Sierra	221	298	278	257	257	265	268	275	269	272	276	294	305	326	350	-0.21
Non ISO	10,080	9,980	9,174	9,644	10,017	10,191	10,365	10,506	10,601	10,719	10,822	10,947	11,071	11,192	11,333	2.75
Total ISO Noncoincident Demand	47,918	48,667	44,957	44,163	45,038	46,461	47,801	48,974	49,889	51,006	51,882	52,834	53,797	54,750	55,553	1.73
Total State	55,134	55,856	51,551	53,808	55,055	56,652	58,166	59,480	60,490	61,725	62,703	63,781	64,868	65,942	66,886	2.90
<b>Coincident Demand</b>																
Total ISO Coincident Demand	46,770	47,501	43,880	43,106	43,960	45,348	46,656	47,801	48,694	49,784	50,639	52,509	53,438	54,222	1.73	1.78
Total Statewide Coincident Demand	53,813	54,518	50,316	52,519	53,737	55,295	56,773	58,056	59,042	60,247	61,202	62,254	63,315	64,362	65,284	2.90
																2.19

**TABLE D-5**  
**Staff's Outlook for the State**  
**1 IN 10 Electric Peak Demand by ISO Congestion Zone**  
**(MW)**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Growth Rate (%) 2001-2006/2001-2013
<b>Noncoincident Demand</b>																
PG&E North	18,792	19,016	17,812	18,939	18,270	18,841	19,354	19,831	20,188	20,651	20,987	21,374	21,721	22,054	22,343	2.17
PG&E San Francisco	932	959	991	895	927	979	1,004	1,015	1,034	1,057	1,074	1,094	1,112	1,129	1,144	0.49
Dept of Water Resources - North	61	61	70	70	70	70	70	70	70	70	70	70	70	70	70	0.00
North of Path 15	19,785	20,037	18,873	19,904	19,267	19,891	20,429	20,917	21,292	21,778	22,132	22,538	22,904	23,283	23,557	2.08
Path 26 - Pacific Gas & Electric - South	2,009	2,033	1,905	2,025	1,953	2,015	2,069	2,120	2,159	2,208	2,244	2,285	2,322	2,358	2,389	2.17
Southern California Edison	20,279	20,952	18,972	19,201	20,489	21,153	21,822	22,377	22,807	23,294	23,708	24,145	24,629	25,118	25,521	3.36
Pasadena Water and Power Dept	311	308	292	319	323	326	330	333	335	337	339	341	344	345	344	2.67
San Diego Gas & Electric	3,616	3,516	3,183	3,608	3,912	4,017	4,127	4,233	4,325	4,444	4,536	4,626	4,723	4,824	4,911	5.87
Dept of Water Resources - South	189	189	219	219	219	219	219	219	219	219	219	219	219	219	219	0.00
South of Path 15	24,395	24,966	22,666	23,347	24,943	25,716	26,488	27,162	27,685	28,294	28,802	29,331	29,915	30,506	30,994	3.69
Sacramento Municipal Utilities District	2,944	2,868	2,652	2,965	2,816	2,872	2,928	2,968	3,004	3,048	3,088	3,131	3,171	3,212	3,255	2.28
Los Angeles Department of Water and Power	5,726	5,660	5,088	5,200	5,696	5,779	5,869	5,938	5,979	6,026	6,061	6,102	6,152	6,188	6,246	3.13
Burbank Public Service Dept	284	278	263	288	291	294	297	300	302	304	306	308	310	311	310	2.67
Glendale Public Service Dept	295	288	272	298	301	305	308	311	313	315	317	319	321	323	321	1.37
Imperial Irrigation District	771	746	767	794	815	837	860	882	904	926	947	969	991	1,012	1,033	2.82
Far North & East Sierra	200	277	256	235	234	242	244	250	244	246	249	267	277	298	321	-0.48
Non ISO	10,219	10,116	9,299	9,780	10,153	10,329	10,506	10,649	10,745	10,865	10,969	11,096	11,221	11,344	11,486	2.75
Total ISO Noncoincident Demand	49,133	49,904	46,096	45,276	46,164	47,621	48,996	50,199	51,136	52,280	53,178	54,154	55,141	56,118	56,941	1.72
Total State	56,409	57,152	52,743	55,056	56,316	57,951	59,501	60,848	61,881	63,145	64,146	65,250	66,363	67,461	68,427	2.90
<b>Coincident Demand</b>																
Total ISO Coincident Demand	47,957	48,709	44,992	44,192	45,058	46,481	47,822	48,997	49,912	51,029	51,904	52,858	53,821	54,774	55,577	1.72
Total Statewide Coincident Demand	55,058	55,783	51,480	53,737	54,968	56,563	58,076	59,390	60,399	61,633	62,610	63,688	64,774	65,846	66,788	2.90
																2.19

**TABLE D-6**  
**Staff's Outlook for the State**  
**1 IN 40 Electric Peak Demand by ISO Congestion Zone**  
**(MW)**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Growth Rate (%) 2001-2006/2001-2013
<b>Noncoincident Demand</b>																
PG&E North	19,526	19,555	18,312	19,463	18,769	19,349	19,881	20,376	20,749	21,229	21,580	21,969	22,327	22,669	22,966	2.16
PG&E San Francisco	932	1,001	912	952	1,014	1,034	1,040	1,053	1,072	1,084	1,112	1,130	1,147	1,162	1.77	1.25
Dept of Water Resources - North	61	61	70	70	70	70	70	70	70	70	70	70	70	70	0.00	0.00
North of Path 15	20,319	20,578	19,383	20,445	19,791	20,433	20,985	21,486	21,872	22,371	22,734	23,151	23,527	23,886	24,198	2.08
Path 26 - Pacific Gas & Electric - South	2,066	2,091	1,958	2,081	2,007	2,069	2,126	2,179	2,218	2,270	2,307	2,349	2,387	2,424	2,456	2.16
Southern California Edison	20,805	21,496	19,464	19,699	21,021	21,702	22,388	22,958	23,398	23,898	24,323	24,771	25,268	25,769	26,183	3.36
Pasadena Water and Power Dept	314	311	294	322	326	330	333	336	338	341	342	345	347	349	347	2.50
San Diego Gas & Electric	3,632	3,532	3,197	3,624	3,930	4,035	4,145	4,252	4,344	4,464	4,556	4,646	4,744	4,846	4,933	1.37
Dept of Water Resources - South	189	189	219	219	219	219	219	219	219	219	219	219	219	219	5.87	3.68
South of Path 15	24,940	25,528	23,175	23,864	25,495	26,285	27,085	27,764	28,289	28,921	29,440	29,981	30,578	31,182	31,681	2.64
Sacramento Municipal Utilities District	3,024	2,946	2,724	3,046	2,892	2,950	3,007	3,049	3,086	3,130	3,172	3,216	3,257	3,299	3,344	2.28
Los Angeles Department of Water and Power	5,780	5,713	5,137	5,249	5,750	5,834	5,925	5,994	6,035	6,083	6,118	6,160	6,210	6,247	6,306	1.72
Burbank Public Service Dept	286	286	265	290	294	297	300	303	305	307	309	311	313	314	312	1.37
Glendale Public Service Dept	298	291	275	301	304	308	311	314	316	318	320	322	324	326	324	2.67
Imperial Irrigation District	792	767	789	816	838	861	883	906	929	952	974	996	1,018	1,040	1,062	1.37
Far North & East Sierra	178	256	235	213	211	218	220	226	218	220	223	241	250	270	292	2.51
Non ISO	10,359	10,253	9,424	9,915	10,288	10,468	10,646	10,791	10,889	11,010	11,116	11,244	11,372	11,495	11,640	1.85
Total ISO Noncoincident Demand	50,349	51,143	47,240	46,390	47,293	48,787	50,196	51,429	52,390	53,562	54,482	55,481	56,492	57,492	58,335	1.71
Total State	57,634	58,450	53,941	56,305	57,582	59,255	60,842	62,221	63,279	64,573	65,597	66,725	67,864	68,987	69,975	2.19
<b>Coincident Demand</b>																
Total ISO Coincident Demand	49,143	49,918	46,109	45,279	46,161	47,619	48,994	50,198	51,135	52,280	53,177	54,153	55,139	56,115	56,938	1.71
Total Statewide Coincident Demand	56,303	57,050	52,649	54,957	56,203	57,836	59,385	60,731	61,764	63,026	64,027	65,128	66,239	67,335	68,299	2.90

**TABLE D-7**  
**Staff's Outlook for the State**  
**IN 2 Net Energy for Load by ISO Congestion Zone with Municipal Sales and Direct Access**  
**(GWh)**

Growth Rate (%)												
2001-2006 2001-2013												
PG&E Direct Access		PG&E North		PG&E Sales		Municipal/Water District Sales		PG&E San Francisco		Dept of Water Resources - North		Total North of Path 15
1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011-2013
8,722	9,202	4,122	9,119	9,119	9,249	9,381	9,515	9,652	9,791	9,932	10,075	10,221
80,015	82,455	83,639	78,605	79,779	82,426	85,022	87,456	89,162	91,478	93,067	94,936	10,520
64,053	65,972	68,175	63,313	64,282	66,409	68,585	70,630	72,055	73,999	75,327	76,891	99,623
15,982	16,483	15,464	15,292	15,497	16,017	16,437	16,826	17,107	17,479	17,740	18,044	18,330
5,483	5,644	5,282	5,266	5,455	5,761	5,908	5,973	6,080	6,220	6,321	6,437	6,542
1,384	1,384	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600
95,603	98,685	95,189	94,590	95,953	99,036	101,909	104,545	106,495	109,088	110,920	113,048	116,864
Path 26 Pacific Gas & Electric - South	8,555	8,816	8,943	8,405	8,530	8,813	9,091	9,351	9,533	9,781	9,951	10,151
Southern California Edison	92,904	98,835	93,006	92,029	93,505	96,683	100,127	103,147	105,407	107,946	110,037	112,270
SCE Sales	74,106	79,171	79,337	70,952	72,277	74,951	77,886	80,431	82,263	84,352	86,019	87,814
Municipal/Water District Sales	9,379	9,727	9,217	9,235	9,387	9,691	9,997	10,264	10,480	10,715	10,920	11,135
SCE Direct Access	9,419	9,937	4,447	11,842	12,041	12,245	12,452	12,664	12,879	13,098	13,321	13,548
Pasadena Water and Power Dept	1,205	1,246	1,193	1,209	1,228	1,249	1,268	1,288	1,303	1,319	1,331	1,346
San Diego Gas & Electric	19,234	19,617	18,794	19,327	19,677	20,270	20,887	21,515	22,057	22,760	23,310	23,854
SDG&E Sales	13,653	13,729	16,156	15,661	16,011	16,521	17,054	17,595	18,047	18,659	19,116	19,565
SDG&E Direct Access	5,581	5,888	6,238	3,666	3,749	3,834	3,920	4,009	4,099	4,194	4,289	4,387
Dept of Water Resources - South	4,315	4,315	4,990	4,990	4,990	4,990	4,990	4,990	4,990	4,990	4,990	4,990
Total South of Path 15	117,659	124,013	117,983	117,556	119,400	123,192	127,273	130,940	133,757	137,015	139,668	142,460
Sacramento Municipal Utilities District	9,923	10,098	9,931	10,139	10,433	10,675	10,901	11,105	11,281	11,479	11,656	11,842
Los Angeles Department of Water and Power	24,328	25,136	24,487	24,504	25,039	25,573	26,155	26,647	26,956	27,311	27,569	28,243
Burbank Public Service Dept	1,098	1,123	1,117	1,133	1,151	1,170	1,188	1,206	1,220	1,235	1,247	1,274
Glendale Public Service Dept	1,143	1,164	1,175	1,191	1,210	1,230	1,249	1,268	1,283	1,299	1,311	1,339
Imperial Irrigation District	2,845	2,844	3,078	3,185	3,272	3,360	3,449	3,539	3,629	3,716	3,801	3,899
Far North & East Sierra	11,525	11,866	12,550	12,472	12,524	12,637	12,703	12,800	12,821	12,897	12,951	13,081
Total Non ISO	50,862	52,227	52,338	52,624	53,628	54,644	55,644	56,567	57,190	57,937	58,555	59,285
Total ISO	231,741	241,613	232,046	220,560	223,883	231,041	238,273	244,836	249,785	255,884	260,559	265,659
Total State	272,680	283,741	274,453	273,174	277,511	285,685	293,918	301,402	306,975	313,821	319,073	324,944
Historic data through 2002 SMUD is included in ISO total through 2001 only California Energy Demand 2003 - Baseline forecast for the IEPR												
Planning Area Totals												
PG&E	SMUD	SCE	LADWP	BGP	SDG&E	Other	DWR	Total	Total	Total	Total	Total
102,775	106,117	102,532	101,394	102,883	106,249	109,400	112,296	114,428	117,269	119,270	121,599	123,780
9,923	10,098	9,931	10,139	10,433	10,675	10,901	11,105	11,281	11,479	11,656	11,842	12,022
92,904	98,835	93,006	92,029	93,505	96,683	100,127	103,147	105,407	107,946	110,037	112,270	114,745
24,328	25,136	24,487	24,504	25,039	25,573	26,155	26,647	26,956	27,311	27,569	27,886	28,514
3,447	3,533	3,485	3,533	3,588	3,648	3,706	3,762	3,806	3,853	3,890	3,973	4,011
19,234	19,617	18,794	19,327	19,677	20,270	20,887	21,515	22,057	22,760	23,310	23,854	24,439
14,369	14,706	15,657	15,796	16,152	16,339	16,450	16,613	16,752	16,970	17,155	17,376	17,554
5,689	5,699	6,590	6,590	6,590	6,590	6,590	6,590	6,590	6,590	6,590	6,590	6,590
272,680	283,741	274,453	273,174	277,511	285,685	293,918	301,402	306,975	313,821	319,073	324,944	330,947

Historic data through 2002  
SMUD is included in ISO total through 2001 only.  
California Energy Demand 2003 - Baseline forecast for the IFPR